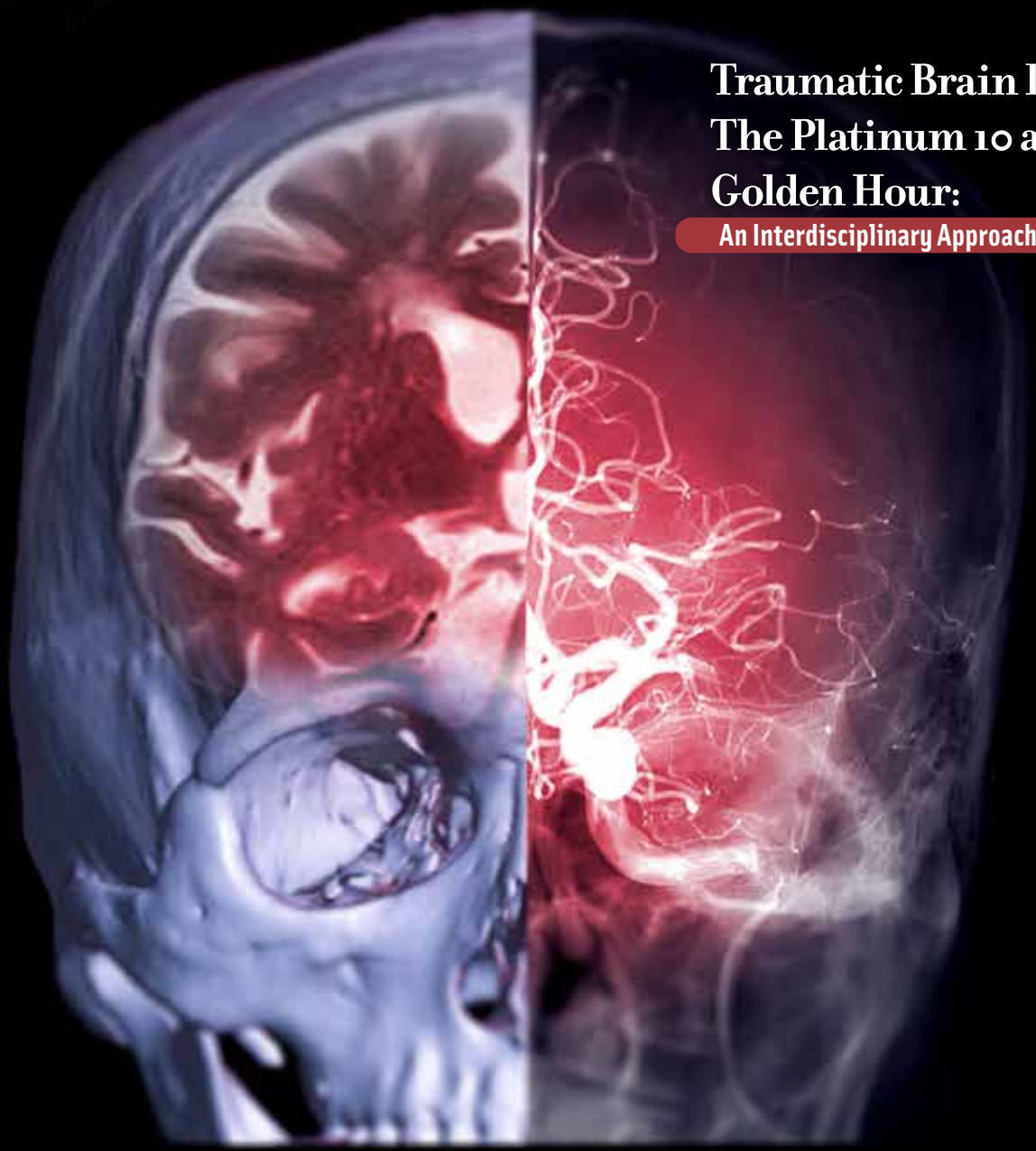
APRIL 2024 VOLUME 56 NO 4

THE SURGICAL TECHNOLOGIST

OFFICIAL JOURNAL OF THE ASSOCIATION OF SURGICAL TECHNOLOGISTS, INC.



Traumatic Brain Injury—The Platinum 10 and the Golden Hour:

An Interdisciplinary Approach

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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.

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. Periodical postage is paid at Littleton, Colorado, and additional mailing offices. Correspondence to *The Surgical Technologist* can be sent to communications@ast.org.

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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.

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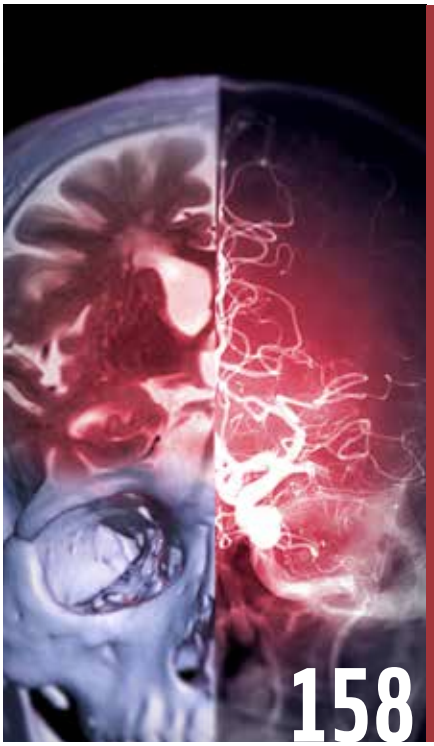

Traumatic Brain Injury – The Platinum 10 and the Golden Hour: An Interdisciplinary Approach

TYRONNE JOHNSON, CST, CRCST, MBA; AND STEVEN O'BRADY, MPA, EMTP, CIC

Traumatic brain injury (TBI) is a leading cause of death and disability in the United States, accounting for nearly 2.5 million TBI-related hospitalizations, emergency department (ED) visits, and deaths. The Golden Hour and the Platinum 10 minutes are timeframes during which immediate and appropriate medical care can significantly improve a TBI patient's chances of survival and recovery. Medical professionals must prioritize these timeframes in managing TBI patients to ensure the best possible outcomes.

In This Issue

In Every Issue

Board and Organizational Success Depends on Engagement and Participation

JESSICA ELLIOTT, CST, RN, FAST, AST SECRETARY

BOARD MESSAGE

What do we do about that board member who seems to have fallen off the face of the Earth or has a challenging time participating? I was recently at the 2024 AST Educators Conference and various state board members approached me with variations of this same issue. Of course, with the accessibility of social media into our lives, we know the majority are just busy prioritizing other things. More comments made were remarkably similar:

"We have not seen or heard from 'X' in months. There has been no response to any form of communication."

"He never comes to meetings or does anything. Why does he even stay on the board?"

"She always promises to take care of things and then someone else must fill in and complete her task."

"She says she has to work. Don't we all?"

"We need to do something, but what!"

Whose responsibility is it to "do something" about a sitting board member who is undependable or missing? The answer is: you, the board of directors. The members elected every board member who swore a duty to the membership to serve, and therefore, that board member has responsibility to the members of the association of being an active participant.

Without action the problem is likely only to get worse, and nonparticipating board members are not serving members of the organization and have a detrimental impact on even the best of boards. When approaching, be constructive and mindful. Remember, we are all volunteers and understand that we all have jobs and other responsibilities. Oftentimes people just need a little reminder to be more conscientious, and others may just need a graceful way to leave the board without harboring bad feelings.

Strategies to Help Guide

- Hold a board discussion where expectations are expressed clearly and the opportunity for feedback is given. Be clear explaining the board's roles and responsibilities. Most boards do this annually, but it does not hurt to reaffirm clarity in roles, goals, and expectations. For example, "I'm not sure that you realize that we ask all board members to attend the annual state conference, assume tasks and to help set up, as well as market to members. Let me explain to you what most board members do, so you can see whether you will be able to work on this with us."
- Use committees for short-term tasks. The board members and officers do not have to carry the load when we have members and future leaders willing to assist in the viability of the organization.
- Be sensitive to issues as to why a board member is not participating. Perhaps, personal or health issues are taking precedence. Life happens. It may be a temporary problem.
- Conduct a survey or discuss what makes it difficult for people to participate fully:

  "Are there things about the way that board meetings are conducted that would make it easier for you to attend ?"

  "Are there things we can change about the format, day, or time of the board meetings that would make it easier for you to attend?"

  "What can make the meeting meaningful to you?"
- Contact the board member. Allow them to respond, and if necessary, offer a graceful way out. With feedback from the board member, explore whether they really have the time right now to be an active board member. "We really want you to participate, but if it

is not feasible, perhaps we should see if there's a way other than board membership for you to be involved."

- If there is no clear resolution, your State Assembly Leadership Committee representative is available for further advice.

What if you are the one who isn't as active as you had expected to be? It happens to the best of us. However, the viability of the organization, success and survival does depend on engagement and participation. You not only are expected to attend meetings, but also contribute and provide your time and expertise. That is why you were voted onto the board in the first place. Assess your situation then fix it by either committing yourself to your duties, or by contacting your board and explaining what may be impeding you from being a productive board member. And, if it is necessary to part ways, do it professionally and on good terms. Remember, being a board member is more than just a résumé builder – it's about commitment, loyalty, and advancing the organization toward a sustainable future.

AST News

AT A GLANCE

APPLY FOR FAST

Deadline is Coming Up - April 15

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.

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.

BEST PRACTICES

AST Guidelines for Best Practices

Did you know that AST has developed a a library of guidelines for best practices? From surgical technologist responsibilities to counts and positioning, to aseptic techniques, disinfection and sterilization and surgical attire, AST provides these resources so you can remain at the top of your game. After careful research and development, the AST Board of Directors have approved a multitude of best practices developed by the AST Education and Professional Standards Committee.

Check out AST Guideline for Best Practices on the Perioperative Role and Duties of the Surgical Technologist During Robotic Surgical Procedures on page 166.

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.

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.

- Alaska – 9 years
- Arizona – 20 years
- Idaho – 22 years
- Illinois – 23 years
- Iowa – 20 years
- Kansas – 20 years
- Maine – 18 years
- Michigan – 24 years
- Missouri – 24 years
- New Hampshire/Vermont – 17 years
- New York – 24 years
- Pennsylvania – 22 years
- Wisconsin – 24 years

Associations are built by volunteers.

With more than 500 volunteers elevating our mission for the highest standards in surgical patient safety,

AST says THANK YOU

to all of you who have committed your time, energy and leadership to push our mission forward.

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Happy National Volunteer Appreciation Week | April 21-27, 2024

The Important Role a National Delegate Plays in AST Involvement

LISA DAY, CST, CSFA, FAST, BAS, STATE ASSEMBLY LEADERSHIP COMMITTEE CHAIR

STATE ASSEMBLY

With the 2024 AST Surgical Technology Conference right around the corner, there's no better time to focus on being involved in your state assembly and professional organization and the importance and responsibility of being a delegate. At the time of this printing, most states have elected those who will represent the members of their states at the AST National Conference, so I felt this was an excellent time to review some important aspects of being a delegate and remind our members that this position should not be taken lightly, as it comes with great responsibility and opportunity, offering great insights into the profession, our organization, and the chance to advocate for the members.

As per the state assembly and national bylaws, six national delegates and six alternates are elected for one term by their state assembly members at the state assembly's annual business meeting. The elected delegates are responsible for voicing their state membership's concerns, ideas, and needs to the AST leadership.

As advocacy is one of the primary goals and responsibilities of being elected as a national delegate, it is vital to understand the issues and initiatives that are being discussed, proposed, and voted on. Delegates also need to have a strong understanding of the requirements for them when attending the national conference. Delegates must attend the two business meetings, participate in the Candidates Forum, and, of course, vote. However, the responsibilities continue as delegates are also tasked with disseminating the information from the national organization to their state members and vice versa, ensuring transparency and fostering membership engagement.

Another important and often overlooked aspect is understanding the basics of Robert's Rules of Order and maintaining proper etiquette within the House of Delegates. Robert's Rules of Order serves as a widely accepted parliamentary authority, providing a structured framework for conducting meetings and making decisions reasonably and efficiently. National delegates must familiarize themselves with the basics of these rules to effectively participate in discussions, make motions, and vote on resolutions and leadership during the business meeting sessions. Maintaining decorum within the House of Delegates is crucial for fostering a respectful and productive environment where diverse viewpoints can be heard and debated constructively. This entails adhering to established protocols, such as the proper way to address the AST president, refraining from disruptive behavior, and showing courtesy toward fellow delegates. By upholding these standards, the national delegates contribute to the highest level of professionalism and effectiveness of the AST's decision-making processes.

The State Assembly Leadership Committee (SALC) and the Bylaws, Resolutions, and Parliamentary Procedures Committees (BRPPC) are excited to announce that we will be offering a delegate orientation session via Zoom scheduled for May 4. This orientation aims to provide essential information and guidance to all elected delegates and alternates participating in the upcoming national conference and elections. All delegates and alternates are encouraged to mark their calendars for this important session, as it will offer valuable insights and resources to enhance their effectiveness in representing their respective states. Further details and instructions will be emailed to all verified delegates.

Stepping up to serve as a national delegate is both an honor and a responsibility. It offers a platform for surgical technology professionals to make meaningful contributions to the organization, advocate for positive change, and foster

collaboration within the surgical technology community. By embracing the role with dedication and integrity, national delegates help shape the future of surgical technology and ensure the continued excellence of the profession.

If you are interested in being a delegate, contact your state assembly leadership team and tell them you would like to submit consent to serve and be placed on the ballot for the next election. The Consent to Serve and a list of delegate duties and responsibilities can be found the AST site at www.ast.org – State Assemblies – Essentials – Delegate Responsibilities.

On behalf of the State Assembly Leadership Committee, we hope to see you all in Denver!

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FAST applications due April 15.

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Basic Anterior Approach Instrument Set

Chosen by Edward J. Whelan III, MD

A Basic Starter Set for the Direct Anterior Approach

Set #6165-00
Also Available Individually

Set includes (2) #6162 and (1) each of the other instruments shown below

USA MADE

Blunt **#1576-B**

Sharp **#1576-S**

Whelan Large Anterior Hip Weitlaner Retractor with Ergonomic Handle

Designed by Edward J. Whelan, III, MD

Designed for self-retaining exposure during anterior approach THA

Whelan Narrow Hohmann Retractor

Designed by Edward J. Whelan, III, MD

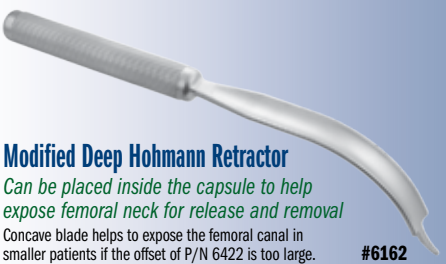
Retractor has a large gentle right angle curve with sharp tip, for retraction of structures anterior to the acetabulum in the anterior approach to total hip

#7116

Modified Anterior Hip Retractor

Trochanteric Retractor helps to expose femoral canal and helps protect gluteal muscles

#6422

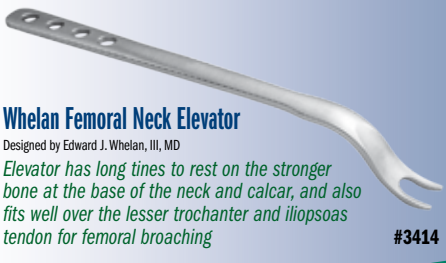


Modified Deep Hohmann Retractor

Can be placed inside the capsule to help expose femoral neck for release and removal

Concave blade helps to expose the femoral canal in smaller patients if the offset of P/N 6422 is too large.

#6162



Whelan Femoral Neck Elevator

Designed by Edward J. Whelan, III, MD

Elevator has long tines to rest on the stronger bone at the base of the neck and calcar, and also fits well over the lesser trochanter and iliopsoas tendon for femoral broaching

#3414

Alvi Small Charnley Style Locking Frame Set

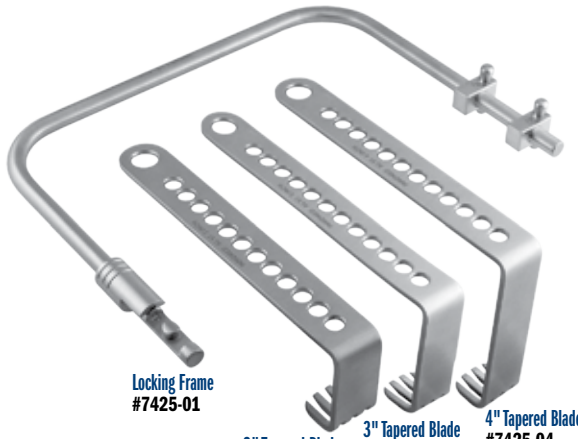
Designed by Hasham Alvi, MD

A self-retaining frame and retractor system designed for use during anterior total hip arthroplasty, the blades help retract the hip capsule and musculature, permitting an unobstructed view of the acetabulum while freeing an assistant

Set #7425-00
Also Available Individually

USA MADE

Set includes one locking frame (7425-01) and one each of the three blade sizes: 2" (7425-02), 3" (7425-03), and 4" (7425-04). (Optional Winged Modified Tapered Blades not included in set.)



Locking Frame **#7425-01**

2" Tapered Blade **#7425-02**

3" Tapered Blade **#7425-03**

4" Tapered Blade **#7425-04**

Optional Winged Modified Tapered Blades

{NOT INCLUDED IN SET}
Design modified by
Prof. Dr. med. Andrej M. Nowakowski

Features a tapered, winged blade for gentler soft tissue retraction

New!

Optional Winged Modified 2" Tapered Blade **#7425-02-MOD**

Optional Winged Modified 3" Tapered Blade **#7425-03-MOD**

Optional Winged Modified 4" Tapered Blade **#7425-04-MOD**

US Patent No. 16/523,304

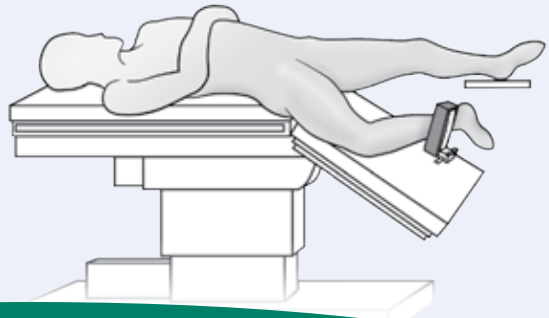
USA MADE

#4165-00

Direct Anterior Total Hip Arthroplasty Leg Positioner Assembly

Designed by Benjamin M. Frye, MD

Designed to help position the operative leg for direct anterior approach total hip arthroplasty using a standard operating table



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Traumatic Brain Injury—The Platinum 10 and the Golden Hour: An Interdisciplinary Approach

Tyronne Johnson, cst, crcst, mba; and Steven O'Brady, mpa, emtp, cic

Traumatic brain injury (TBI) is a leading cause of death and disability in the United States, accounting for nearly 2.5 million TBI-related hospitalizations, emergency department (ED) visits, and deaths.[12] Primary and secondary brain injury are terms used to categorize the processes that occur when a patient suffers head trauma. Primary brain injury occurs when the physical structures of the brain are displaced during the initial impact, primary brain injury occurs.

LEARNING OBJECTIVES

- List the traumatic head and spinal injury procedures
- Detail the conditions requiring TBI treatment
- Evaluate the hand-off process between the EMT, the ER and the perioperative team for a traumatic brain injured patient
- Describe the steps the CST needs to be aware of when case planning for a TBI patient
- Explain the Golden Hour and Platinum 10 Minutes

A complex array of inflammatory, excitotoxic, oxidative stress, metabolic, vascular, and mitochondrial mechanisms are activated in the first hours after injury, and each progresses to initiate further injury.[6] Secondary brain injuries are caused by chemical, cellular, and perfusion damage that develops minutes to hours after the initial impact.[6] These secondary injuries could be avoided if proper initial trauma care is provided.

Excellence in Prehospital Injury Care (EPIC) was created in 2011 by the University of Arizona in collaboration with the Arizona Department of Health Services as an EMS-centered traumatic brain injury project. This project aimed to develop clear, field-ready guidelines that would make a significant difference in the lives of traumatic head injury victims. Despite advances in medical science and vehicle safety, the number of TBI cases in the US continues to rise, with nearly 2.8

million cases reported yearly.[12] The aging population in the United States, and the increased use of blood-thinning medications, significantly contribute to this shift.[3] In 2010, the total cost of TBI in the US was estimated to be $76.5 billion.[4]

ASSESSMENT AND MANAGEMENT

Controlling oxygen saturation and ventilation may benefit from endotracheal intubation. However, because many TBI patients are combative or have intact protective airway reflexes, rapid sequence intubation (RSI) may be required to achieve intubation. RSI may prevent abrupt changes in oxygen saturation, blood pressure, and intracranial pressure in addition to removing protective airway reflexes.[1] Pretreatment for RSI is debatable and may worsen hypotension.

Emergency medical systems provide the trauma care system with the earliest opportunity to initiate resuscitation and rapidly transport patients to definitive care facilities. Because prehospital trauma care and priorities are time-driven, understanding the relationship between time and outcomes is critical for identifying opportunities to optimize prehospital care and improve trauma outcomes.[1] Survival after severe trauma is more than just a matter of quick rescue time; it is also a matter of well-utilized rescue time, which includes performing vital measures in the prehospital setting. This includes rescue teams identifying the severity of injuries in the most severely injured patients in critical condition more quickly than in less severely injured patients and planning their interventions accordingly.[9]

THE GOLDEN HOUR AND PLATINUM 10 MINUTES

The term "golden hour" is frequently used in trauma to refer to the fact that an injured patient has 60 minutes from the injury time to receive definitive care, after which morbidity and mortality rise steeply. The "platinum 10 minutes" concept, which is analogous, places a time constraint on the prehospital care of the seriously injured patient. Before transport to definitive care at a trauma center, no patient should have more than 10 minutes of scene-time stabilization by the prehospital team prior to transport to definitive care at a trauma center. Trauma is a severe public health problem. In the United States alone, trauma accounted for 29.2 million emergency department visits and 39.5 million physician office visits in 2016.[1] Trauma is the leading cause of death in the US for those aged 46 and younger; trauma-related mortality has increased by 23% across nearly all age groups between 2010 and 2016.[5]

Because prehospital trauma care and priorities are timedriven, understanding the relationship between time and outcomes is critical for identifying opportunities to optimize prehospital care and improve trauma outcomes.

Rapid assessment, imaging with a CT scan, and possibly neurosurgery are required for patients who have suffered a head injury. Time is the brain, and any delay increases the likelihood of disability or death. Transporting patients to trauma centers that provide neurological services, and activating teams at these centers as soon as possible, expedites the process of definitive care.

TBI can have a significant impact on an individual's physical, cognitive, and emotional well-being. It can cause long-term effects that persist well beyond the initial injury. Here is an overview of traumatic brain injuries, including their causes, symptoms, diagnosis, and treatment.

Causes: Traumatic brain injuries can result from a variety of causes, including motor vehicle accidents, falls, sports-related injuries, physical assaults, and explosive blasts. These events can cause direct impact or force to the head or body, leading to brain damage. The severity of the injury can range from mild, such as a concussion, to severe, such as a skull fracture or intracranial hemorrhage.

Symptoms: The symptoms of TBI can vary depending on the severity of the injury and the part of the brain affected. Common symptoms of mild TBI include headaches, dizziness, confusion, and memory problems. More severe TBI can cause loss of consciousness, seizures, and paralysis. Emotional and behavioral symptoms such as depression, anxiety, and irritability can also occur following TBI.

Diagnosis: Diagnosing TBI typically involves a comprehensive evaluation that includes a physical examination, neurological assessment, and imaging studies such as computed tomography (CT) or magnetic resonance imaging (MRI) scans. Doctors may also perform cognitive tests to

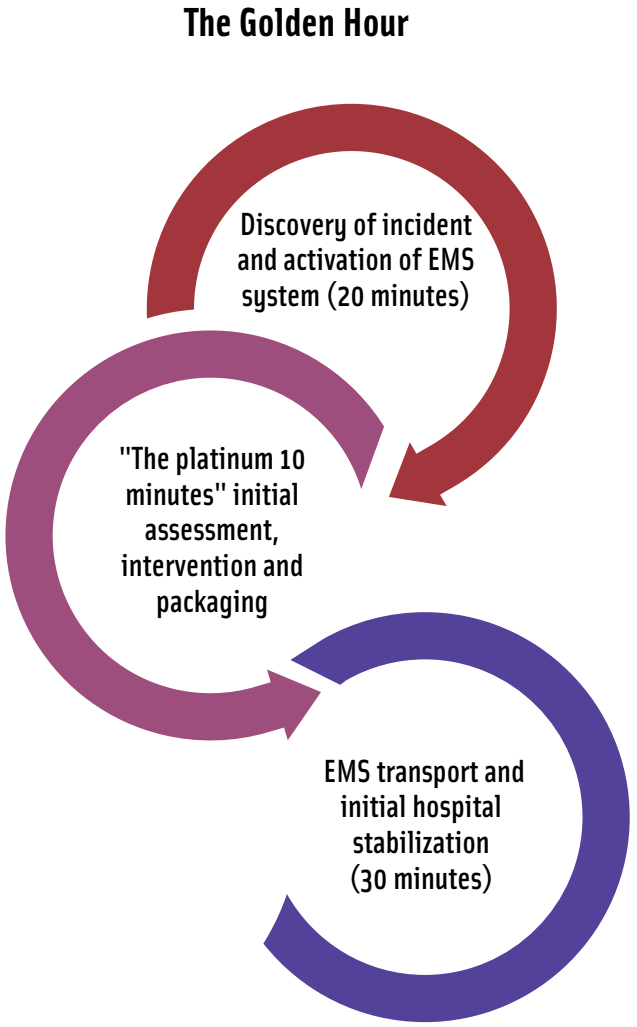
assess memory, attention, and other cognitive functions.

Treatment: The treatment for TBI varies depending on the severity of the injury. Mild TBI often requires rest and careful monitoring of symptoms, while more severe TBI may require surgery, medication, and rehabilitation. Rehabilitation may involve physical therapy to improve motor function, speech therapy to address communication difficulties, and cognitive therapy to improve memory and other cognitive functions. Additionally, mental health treatment may be necessary to address emotional and behavioral symptoms associated with TBI. Immediate surgery will be required for urgent and significant damage to the brain that cannot be corrected by nonsurgical treatments.[7]

THE HANDOFF PROCESS BETWEEN THE EMERGENCY MEDICAL TECHNICIAN (EMT), THE EMERGENCY ROOM DEPARTMENT, AND PERIOPERATIVE TEAM FOR A TRAUMATIC BRAIN INJURED PATIENT

The handoff process between the emergency medical technicians (EMT), the Emergency Room Department (ER) and the perioperative team for a TBI patient is a critical component of ensuring that the patient receives appropriate and timely care. The handoff process involves transferring the responsibility of the patient's care from the EMT and the ER team to the perioperative team, which includes CSTs, nurses, anesthesiologists, and surgeons. Here are the five key steps involved in the handoff process:

1. **Communication:** Effective communication is essential during the handoff process. The EMT should provide a detailed report [Situation, Background, Assessment & Recommendation (SBAR) or Mechanism, Injuries, Signs/Symptoms, and Treatment (MIST) report] of the patient's condition, including vital signs, level of consciousness, and any interventions that were performed during transport. The perioperative team should ask questions to clarify any uncertainties and ensure they clearly understand the patient's condition. Miscommunication during handoff can lead to as many as 80% of serious medical errors.[11]
2. **Assessment:** Once the patient arrives in the perioperative area, the perioperative team should perform a thorough evaluation to confirm the information provided by the EMT and ER teams to identify any additional injuries or concerns. It's important to note that the perception of handoff quality varies between healthcare providers, with 41% reporting "fair" to "poor" and only 35% reporting "very good" to "excellent."[10] This may include performing a physical examination, taking vital signs, and conducting diagnostic tests such as imaging studies to verify.
3. **Stabilization:** Depending on the patient's condition, the perioperative team may need to stabilize the patient before proceeding with further interventions. This may include administering medications to control pain or seizures or providing oxygen or other respiratory support.
4. **Planning:** Once the patient has been stabilized, the perioperative team should develop a plan of care based on the patient's condition and any diagnostic tests that



have been performed. This may involve consulting with other specialists, such as neurologists or intensivists, to develop a comprehensive care plan.

5. **Handoff documentation:** Throughout the handoff process, it is important to document all relevant information, including the patient's condition, interventions performed, and any concerns or questions. This documentation should be shared with perioperative team members and incorporated into the patient's medical record.

The handoff process between the EMT, the ED and perioperative teams can help to ensure that TBI patients receive timely and appropriate care, which can improve outcomes and reduce complications. Effective communication, thorough assessment, and careful planning are vital components of a successful handoff process for TBI patients.

DIFFERENT TYPES OF BRAIN AND SPINAL CORD INJURIES

Traumatic brain injury often occurs as a result of a severe sports injury or car accident. Each year, around 1.5 million Americans suffer a TBI, or those more than 200,000 US cases reported are injured badly enough to be sent to the hospital, resulting in more than 150 deaths each day.[8] It's worth noting that patients with TBI may have a combination of blunt and penetrating injuries, depending on the circumstances of the trauma. TBI's severity and specific manifestations can vary widely and require careful evaluation, diagnosis, and management by medical professionals.

Blunt trauma and penetrating trauma are two primary mechanisms of injury that can cause a TBI.

1. **Blunt Trauma:** Blunt trauma refers to injuries caused by a forceful impact or blow to the head, without any object penetrating the skull. It can result from various incidents such as falls, motor vehicle accidents, physical assaults, or sports-related injuries. Blunt trauma can cause TBIs through several mechanisms:
   a. *Concussion:* A concussion is a mild form of TBI caused by a sudden jolt or blow to the head. It disrupts normal brain function, leading to temporary symptoms such as confusion, headache, dizziness, and memory problems. Most concussions are considered mild and resolve within a few days to weeks.
   b. *Contusion:* A contusion is a more severe form of TBI characterized by bruising or bleeding within the brain tissue. It occurs when the brain strikes the inner skull during a blunt impact. Contusions can cause focal neurological deficits and may require medical intervention.
   c. *Diffuse Axonal Injury (DAI):* DAI is a severe form of TBI caused by the stretching, tearing, or shearing of nerve fibers (axons) within the brain. It typically occurs due to rapid acceleration or deceleration forces. DAI can result in widespread damage throughout the brain and often leads to significant cognitive, motor, and sensory impairments.
2. **Penetrating Trauma:** Penetrating trauma occurs when an object, such as a bullet, knife, or projectile, enters the skull and directly damages the brain tissue. Penetrating injuries often cause localized damage and can result in the following:
   a. *Intracerebral Hemorrhage:* Penetrating trauma can cause bleeding within the brain, leading to the formation of a hematoma. Depending on the location and severity, intracerebral hemorrhages can have severe consequences and may require surgical intervention.
   b. *Open Skull Fracture:* An open skull fracture occurs when a penetrating object breaks through the skull. These injuries carry an increased risk of infection and require immediate medical attention. Additionally, they can cause both focal and diffuse brain injuries.
   c. *Foreign Body:* A penetrating object may sometimes remain lodged in the brain. This foreign body can cause ongoing damage and necessitates surgical removal to prevent complications.

CONDITIONS THAT REQUIRE SURGERY

Skull fractures: Four significant types of skull fractures that need surgery include linear skull fractures, diastatic skull fractures, depressed skull fractures, and basilar skull fractures.

Hydrocephalus: Is a condition occurs when cerebrospinal fluid (CSF) builds up in the ventricles (cavities that produce CSF) situated deep in the brain.

Intracerebral hemorrhage: A life-threatening emergency that deprives the brain of oxygen and blood supply and occurs because of bleeding in the brain tissue requiring immediate treatment.

Hematomas: A blood collection that accumulates within the skull outside the blood vessels. Intracranial hematoma

(ICH) is a potentially life-threatening head injury. The various ICHs include epidural hematoma, subdural hematoma, diffuse axonal injury (DAI), and contusion or intracerebral hematoma.

THE ROLE OF THE CERTIFIED SURGICAL TECHNOLOGIST IN CASE PLANNING FOR A TBI PATIENT

The role of the Certified Surgical Technologist (CST) in case planning for a TBI patient is critical for ensuring safe and effective surgical care. The CST is a surgical team member responsible for preparing the operating room and equipment, assisting the surgeon during the procedure, and maintaining a sterile field. Here are some of the ways in which the CST can contribute to case planning for a TBI patient:

1. **Preoperative planning:** The CST can work with the surgical team to develop a plan for the surgical procedure based on the patient's specific condition and needs. This may include identifying any specialized equipment or instrumentation that may be needed, checking the surgeon's preference card, ensuring that the appropriate sterile supplies are available, and coordinating with surgical team members to ensure all necessary preparations are completed before the procedure begins.
2. **Patient positioning:** The CST is responsible for confirming the positioning of the patient on the operating table in a way that is safe and comfortable for the patient, while also providing the surgeon with optimal access to the surgical site. This may involve special considerations such as ensuring that the patient's head and neck are properly supported and that there is sufficient clearance for any monitoring or diagnostic equipment that may be needed during the procedure.
3. **Instrument selection:** The CST can assist the surgeon in selecting and preparing the appropriate surgical instruments. This may involve identifying specialized instruments that are designed specifically for TBI procedures or ensuring the instruments used are appropriately sized and configured for the patient's anatomy, and double checking the surgeon preference card to verify all available equipment is ready.
4. **Sterile technique:** The CST is responsible for maintaining a sterile field to minimize the risk of infection. This involves ensuring that all sterile supplies and equipment are properly prepared and that the surgical team follows strict sterile technique throughout the procedure. For TBI patients, this may involve additional precautions, such as using specialized draping materials or taking extra care to avoid surgical site contamination.

Effective communication, thorough assessment, and careful planning are vital components of a successful handoff process for TBI patients.

SURGICAL INSTRUMENTATION

The CSTs knowledge of surgical instrumentation used in TBIs is critical and can impede or enhance the outcome of the case. Surgical instruments used in TBI procedures can vary depending on the specific type and severity of the injury, as well as the surgical approach being used. However, several types of surgical instruments commonly used in TBI procedures, including:

1. **Cranial drills:** Cranial drills are specialized surgical instruments used to create openings in the skull for accessing the brain. These drills may be used in TBI procedures to relieve pressure on the brain, remove blood clots, or repair damage to the skull.
2. **Bone rongeurs:** Bone rongeurs are surgical instruments that remove small pieces of bone from the skull. In TBI procedures they create a larger opening in the skull or remove any bone fragments that may be causing pressure on the brain.
3. **Neurovascular clamps:** Neurovascular clamps are specialized surgical instruments used to temporarily occlude blood vessels during surgery. In TBI procedures they control bleeding or they isolate a specific area of the brain during the procedure.
4. **Microsurgical instruments:** Microsurgical instruments are specialized surgical instruments used in procedures requiring a high degree of precision and control. In TBI

procedures they may be used to repair damaged blood vessels or nerve tissue, to remove small tumors or other abnormalities from the brain.

5. **Intracranial pressure monitors:** Intracranial pressure monitors are specialized instruments used to measure the pressure inside the skull during surgery. In TBI procedures they help guide the surgical approach and monitor the patient's response to treatment.

TRAUMATIC HEAD AND SPINAL INJURY PROCEDURES

Traumatic head and spinal injuries can vary widely in severity, and the procedures undertaken depend on the specific nature and extent of the injury. Here are some standard procedures and potential complications:

Head Injury Procedures:

1. **Craniotomy:**
   - **Description:** This surgical procedure involves the removal of part of the skull to access the brain
   - **Complications:** Infection, bleeding, swelling, neurological deficits, seizures, and long-term cognitive impairments
2. **Intracranial Pressure Monitoring:**
   - **Description:** Involves placing a device to monitor pressure inside the skull
   - **Complications:** Infection, bleeding, damage to surrounding structures, and inaccurate pressure readings
3. **Ventriculostomy:**
   - **Description:** A catheter is inserted into the brain's ventricles to drain excess cerebrospinal fluid
   - **Complications:** Infection, bleeding, damage to brain tissue, and blockage of the catheter

Spinal Injury Procedures:

1. **Spinal Fusion:**
   - **Description:** Involves joining two or more vertebrae to stabilize the spine
   - **Complications:** Infection, failure of fusion, nerve damage, blood vessel injury, and chronic pain
2. **Decompressive Surgery:**
   - **Description:** Removing parts of the spine to relieve pressure on the spinal cord or nerves
   - **Complications:** Infection, bleeding, spinal fluid leaks, neurological deficits, and instability
3. **Vertebroplasty/Kyphoplasty:**
   - **Description:** These procedures involve injecting bone cement into fractured vertebrae to stabilize them
   - **Complications:** Infection, cement leakage, nerve injury, and worsening of fractures
4. **Discectomy:**
   - **Description:** Removal of part or all of a spinal disc to relieve nerve pressure
   - **Complications:** Infection, bleeding, nerve injury, and recurrent disc herniation

It's essential to understand that surgical approaches and procedural complications vary based on factors such as the patient's overall health, the severity of the injury, and the success of the surgical intervention. Additionally, advances in medical technology and surgical techniques may contribute to improved surgical outcomes and reduced risks over time.

CONCLUSION

The "Golden Hour" and the "Platinum 10 minutes" are critical timeframes in the management of traumatic brain injury (TBI) patients. The Golden Hour refers to the first hour after a traumatic injury, during which immediate and appropriate medical care can significantly improve a patient's chances of survival and recovery. The primary goal of the Golden Hour is to provide the necessary medical interventions to stabilize the patient's vital signs and prevent further damage to the brain.

The Platinum 10 minutes refer to the first 10 minutes after a patient's arrival at a medical facility. During this time, medical professionals should assess the patient's airway, breathing, and circulation (ABCs) to identify any life-threatening conditions and start appropriate interventions. This early assessment is critical in identifying and treating conditions that can quickly lead to further brain injury, such as hypoxia or hypotension.

The Golden Hour and the Platinum 10 minutes are are essential in managing of TBI patients because early intervention can significantly improve patient outcomes. Delayed or inadequate care during these critical timeframes can lead to worsened brain injury and potentially permanent disabilities or even death.

In summary, the Golden Hour and the Platinum 10 minutes are timeframes during which immediate and appropriate medical care can significantly improve a TBI patient's chances of survival and recovery. Medical professionals must prioritize these timeframes in the managing of TBI patients to ensure the best possible outcomes.

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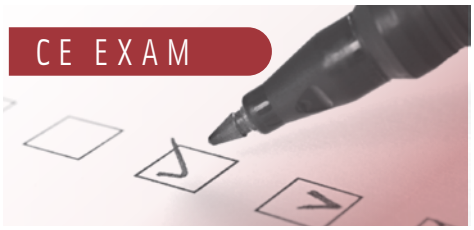

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Traumatic Brain Injury – The Platinum 10 and the Golden Hour: An Interdisciplinary Approach

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1. **The term golden hour is used in trauma to refer to the fact that an injured patient has ___ from the injury time to receive definitive care after which morbidity and mortality rise steeply.**
   a. 30 minutes
   b. 60 minutes
   c. 120 minutes
   d. 180 minutes

2. **What are some of the conditions that require surgery for a head injury?**
   a. Hydrocephalus
   b. Skull fractures
   c. Hematomas
   d. All of the above

3. **What is used in TBI procedures to temporarily occlude blood vessels?**
   a. Neurovascular clamps
   b. Cranial drills
   c. Microsurgical instruments
   d. Intracranial pressure monitors

4. **The platinum 10 minutes concept places a time constraint on the _____ of the seriously injured patient.**
   a. Prehospital care
   b. Intraoperative care
   c. Postoperative care
   d. All of the above

5. **Diagnosing TBI involves a comprehensive evaluation that includes:**
   a. Physical examination
   b. Imagining studies
   c. Neurological assessment
   d. All of the above

6. **Which procedure involves injecting bone cement into fractured vertebrae to stabilize them?**
   a. Discectomy
   b. Spinal Fusion
   c. Vertebroplasty/Kyphoplasty
   d. Craniotomy

7. **Common symptoms of mild TBI include:**
   a. Headaches
   b. Seizures
   c. Paralysis
   d. All of the above

8. **There are five key steps involved in the handoff process for the TBI patient. Which is the second step?**
   a. Communication
   b. Assessment
   c. Stabilization
   d. Planning

9. **What surgical procedure requires a catheter to be inserted into the ventricles of the brain to drain excess cerebrospinal fluid?**
   a. Craniotomy
   b. Intracranial Pressure Monitoring
   c. Ventriculostomy
   d. Spinal Fusion

10. **Microsurgical instruments are specialized surgical instruments used in TBI procedures to:**
    a. Repair damaged blood vessels
    b. Remove small tumors
    c. Remove bone fragments
    d. Both a and b

TRAUMATIC BRAIN INJURY – THE PLATINUM 10 AND THE GOLDEN HOUR: AN INTERDISCIPLINARY APPROACH #486 APRIL 2024 2 CE CREDITS $12

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AST Guidelines for Best Practices on the Perioperative Role and Duties of the Surgical Technologist During Robotic Surgical Procedures

Approved October 11, 2013
Revised April 23, 2014
Revised April 14, 2017

Introduction

The following Guidelines for Best Practices were researched and authored by the AST Education and Professional Standards Committee, and are AST approved.

AST developed the guidelines to support healthcare delivery organizations (HDO) reinforce best practices in the role and duties of the surgical technologist during robotic surgical procedures as related to the role and duties of the Certified Surgical Technologist (CST®), the credential conferred by the National Board of Surgical Technology and Surgical Assisting. The purpose of the guidelines is to provide information OR supervisors, risk management, and surgical team members can use in the development and implementation of policies and procedures for the role and duties of the CST during robotic surgical procedures in the surgery department. The guidelines are presented with the understanding that it is the responsibility of the HDO to develop, approve, and establish policies and procedures for the surgery department regarding the role and duties of the CST during robotic surgical procedures practices per HDO protocols.

Rationale

Robotic surgery is defined as a surgical procedure or technology that adds a computer-assisted electromechanical device to the interaction between the surgeon and the patient.[6] Examples include micromanipulators, remotely-controlled endoscopes, and console-manipulated devices.[6] These devices enhance the surgeon's vision, tissue manipulation, and tissue-sensing which alter the traditional surgeon-surgical wound direct contact. Robotic surgery devices have developed well beyond the investigational stage and their use in the OR has become an accepted method for performing minimally invasive surgery (MIS) in most surgical specialties on a routine basis.

Small healthcare to large research facilities are purchasing surgical robots and training their surgical personnel in the use of the robots. The surgical robot continues to evolve in development (first generation surgical robots had two manipulators (arms) and the current generation has four; henceforth, the layman term "arms" will be used throughout the document), and surgical applications; additionally, in anticipation that they become more economical to purchase their usage is anticipated to continue to increase. The most well-known robotic system is the da Vinci®; the most recent generations are the *da Vinci S HD*, *da Vinci Si*, and *da Vinci Xi* that are hi-definition, 3-dimensional vision systems that consist of the patient cart, surgeons console with foot pedals, and vision cart that contains the camera, focus controller, light source, electrosurgical unit, and equipment.[1, 15] Additionally, specially designed EndoWrist® instruments that provide a full range of motion and precision are used by the surgeon.

This demands the CST to have the technical knowledge to assist the surgeon in providing quality surgery that ensures the safety of the patient.

Approach to Organization of Guideline

As compared to other AST Guidelines, this guideline has a different approach regarding format and wording. The guidelines are placed under the general headings of Preoperative, Intraoperative, and Postoperative to sequence of the role and duties fulfilled by the CST. Additionally, the guidelines focus more on the "process", meaning the specific "actions" the CST performs during robotic surgical procedures. For example, the CST is now "handing" surgical instruments to the robotic arm and assisting with specific actions such as insertion of an instrument into a port.[10] Essentially, it is no different from when the surgeon is across from the CST during non-robotic surgical procedures; the exception being, obviously, the surgeon is now at the surgeon's console manipulating the extension of his/her own arms which is the robotic arms, and the CST must have the knowledge as related to the technicalities of the robotic device. Therefore, based upon inquiries received at AST by surgeons, CSTs, and OR supervisors regarding what is the role and duties of the CST during robotic surgery, this guideline includes specific process-based information. For the duration of the guideline the technical information will focus on the current generation of da Vinci models.

Evidence-based Research and Key Terms

The research of articles, letters, nonrandomized trials, and randomized prospective studies is conducted using the Cochrane Database of Systematic Reviews and MEDLINE®, the U.S. National Library of Medicine® database of indexed citations and abstracts to medical and healthcare journal articles.

The key terms used for the research of the guidelines include: robotics; robotic surgery; da Vinci robotic system. Key terms used in the guidelines are italicized and included in the glossary.

Guideline I

The CST should complete training specific to the robotic device being used at the HDO.

1. As with any technology used in the OR, the completion of training by the CST is necessary in order to achieve competence with the robotic technology and surgical procedures.
   - A. As a graduate of an accredited surgical technology program, the CST gained entry-level knowledge of robotic surgery.
     - (1) The initial formal education on robotic surgery is primarily through didactic studies.[2]
       - a. The surgical technology student should be familiar with the medical terminology specific to robotic surgery, e.g. degree of freedom or rotation, articulated, manipulators, telesurgery, and carry this knowledge into the OR as a CST practitioner. Knowledge of medical terminology contributes to the competency of the CST by being able to communicate with the other team members using the common robotic "language", as well as an understanding of the robotic components and instrumentation.
     - (2) There may be instances where the surgical technology student may have exposure to robotic surgery during surgical rotation; however, it depends upon if the HDO has a robot, and if the student is allowed to observe and/or scrub-in on robotic procedures.

B. Prior to participating in robotic surgery, the CST should complete specific preclinical training for each type of robotic device utilized at the HCF.
   (1) Due to the complexity of robotic devices, robotic surgery demands the CST to complete didactic and hands-on training that is provided by the device manufacturer and the HDO including ongoing continuing education.[2, 3]
      a. The HDO is responsible for setting the training and competency requirements for the equipment used on patients.[11]
   (2) When the HDO purchases a new robotic device including the accessories and instruments, or any new item for the currently used surgical robot the CST should complete continuing education provided by the device manufacturer.[3]
   (3) The training should initially be observation and familiarization that progresses to hands-on training in a lab/simulated practice to allow the CST to learn the technical skills as well as the ability to efficiently work with the surgical team managing unforeseen situations including trouble-shooting equipment malfunctions or patient emergencies such as internal hemorrhaging.[14]
   (4) The training should include the following (this list is not all inclusive):
      a. Preferably, the HDO has a dedicated OR for robotic surgery where the system components are permanently maintained. If not, training should involve proper transportation of the surgeon console, patient cart, and vision cart to the OR that prevents damage to the components.
      b. How to connect the robot system components.
      c. Proper setup, draping, and positioning arms.
      d. Proper technique for white balance and calibration of endoscope and camera.
      e. Proper technique for inspecting robotic instruments for functionality and defects.
      f. Proper technique for placing the instruments in the robotic arms and exchange of instruments.
      g. Proper technique for inserting instruments into trocars as directed by the surgeon.[9]
      h. Proper technique for removal, exchange, cleaning and re-introduction of the endoscope.
      i. Proper technique for manipulating/moving the uterus for visualization as directed by the surgeon. (S. Walsh, personal communication, July 21, 2012).
      j. Proper technique for grasping and inserting the Endo Catch™ or Endobag™.
      k. Proper techniques regarding how to safely and quickly move the system components in a patient emergency such as internal hemorrhaging.
      l. Trouble-shooting technical problems, e.g. if the device suddenly stops working or shuts down, arms make independent movements that are potentially unsafe to the patient.
      m. Assisting with wound closure.
      n. Proper cleaning, disinfection and sterilization of reusable instruments, accessories and endoscopes used with the robotic device.
      o. Specific variations for each procedure setup.
   (5) A HDO should ensure that 3-4 teams consisting of a surgeon, CST, and RN are trained to establish a continuity of patient care.[5]

(6) The Robotics Team Leader (see Standard of Practice II) should document all training and confirm the competencies of the CST. See Appendix A for a sample competency checklist.
   a. The Robotics Team Leader is responsible for documenting the training completed by CST employees including visual confirmation of the competencies of the CSTs who are a member of the robotic team.
   b. The Robotics Team Leader should document additional continuing education the CST employees complete regarding robotic surgery to include training on new robotic components, instrumentation, and accessories the HDO purchased, and surgical procedures.

2. Upon completion of training and gaining experience working with the team on robotic surgical procedures, the CST can contribute to the training of other surgical staff members.

Guideline II
It is recommended that the HDO designate an individual in the surgery department as the Robotics Team Leader.

1. The Robotics Team Leader should be an individual that has extensive robotic surgical experience who serves as the coordinator of the robotic services program in the surgery department.[12]
   A. The CST, with training and experience, can serve as the Robotics Team Leader.
      (1) It is recommended the HDO appoint a Robotics Team Leader when the HDO is establishing a new *robotics* surgical program who can serve as the lead person in coordinating all aspects of the program including scheduling robotic procedures; purchasing new and replacement accessories and instruments; confirm availability of accessories and instruments for robotic procedures; provides and/or arranges training and continuing education.[12] See Appendix B for a comprehensive list of recommended responsibilities.
      (2) The Team Leader should be an active member of the robotic team participating in robotic procedures who can be relied upon to provide expert guidance, suggestions and recommendations to the team during the procedure.

Guideline III
The surgery department should review the policies and procedures (P&P) regarding robotic surgery on an annual basis.

1. The surgery department should include members of the surgical team and administration when reviewing the P&Ps, including CSTs, surgeons, RNs, risk management, and infection control officer.
   A. The surgery department should document when the P&Ps were reviewed, revision completed, and who participated in the review process.
2. CSTs should be familiar with the P&Ps for robotic surgery. The orientation of new employees should include reviewing the P&Ps.

Preoperative Guidelines

Guideline IV

The CST must have a thorough understanding of the two robotic components, the patient and vision carts, to be able to participate in setting up the components when scrubbed in or as an assistant circulator.

1. The following are brief descriptions of the patient and vision carts that the CST is involved with moving, setting up, and draping; the CST is referred to the Intuitive, Inc. publications for detailed information. The following information applies to the S HD, Si, and Xi da Vinci models.
   A. The patient cart contains the camera and instrument arms, and touchscreen monitor.
      (1) The S HD, Si, and Xi systems have a camera arm and three numbered instrument arms.

      (2) Each arm is equipped with a clutch button that assists with all movements of the arms as well as insertion and withdrawal of instruments. To activate the clutch, the CST depresses the button and the arm can be moved; if the button is not depressed, the CST will meet with resistance and the arm will return to its original position.[7]
         a. There is a clutch button exclusive to the camera and instrument arms located at the top of each arm used to adjust the final positioning of the arm during the docking procedure as well as to insert and withdraw the endoscope and instruments.
      (3) The are several accessory items that must be sterile that are positioned when draping each arm; the items are:
         a. Camera sterile adapter
         b. Camera arm sterile adapter
         c. Instrument arm sterile adapter
         d. Camera trocar mount
         e. Instrument arm sterile adapter – this has a limited use life and only reused 50 times
         f. Instrument arm sterile adapter – can only be used once
      (4) The touchscreen monitor is coordinated with the surgeon console; it displays the system status icons and text messages for the CST and circulator to view.[1] The monitor can also be mounted on the vision cart.[7]
      (5) The patient cart is moved with the use of a motor drive that provides for easily docking the cart to the OR table and trocars.
      (6) The connections for cables are located on the back of the cart.
   B. The vision cart contains the light source, camera focus controller and storage bin, and video processing equipment; additionally, a telemonitor may be placed on the cart.[15]
      (1) For the S HD system, the light source is a sterile bifurcated cable that is attached to the endoscope to illuminate the right and left channels; the Si system uses a single light source cable.[7]
      (2) The endoscope is connected to the camera head and the camera head is also connected to an automatic focus control that is connected to the surgeon console. The optical channels of the camera are connected to chip camera control units (CCU) to produce the three-dimensional image at the surgeon console.[1]

(3) The vision cart system contains a digital zoom so the surgeon can magnify the tissue without having to move the endoscope.
(4) One of the more recent revisions to the Si patient cart involves the light source and camera control unit combined into a single connection.
(5) The white balance is completed using the telemonitor.
(6) The wheel locks are located on the rear wheels of the vision cart.[16]

Guideline V
The CST must have a thorough understanding of the specialty EndoWrist® instruments to properly handle and care for the instruments.

1. The instruments are manipulated by the surgeon at the surgeon console; they have seven degrees of freedom with a wide degree of articulation and rotation that simulate the movements of the wrist and hand.
   A. The CST must confirm the robotic system that is being used if the HDO has the standard and S systems because the instruments are not interchangeable between the systems.
      (1) The instruments for the standard system are 52 cm with grey-colored housing, whereas the S systems instruments are 57 cm with blue-colored housing.[7]
   B. Each instrument has a fixed life of 10 uses at which time it is discarded.[9]
      (1) The system tracks the number of uses remaining for each instrument and provides the information on the telemonitor.[9] The CST must pay careful attention to this information since the instrument arm will not function if an instrument that has exceeded the number of uses is inserted onto the arm.
      (2) The CST should have extra of each instrument available in the OR in the event an instrument has reached its number of uses.

Guideline VI
The CST should demonstrate the knowledge and skills with the preoperative preparation and setup of the system's components.

1. The surgeon console, patient cart, and vision cart should be carefully transported into the OR to prevent damage.
   A. The components should be slowly and carefully transported per manufacturer's instructions.
      (1) The patient cart is transported using the motor drive.
      (2) The robotic arms must be in the stow position and kept from moving during transportation to avoid damage, e.g. hitting a wall or door.
   B. The components should be arranged in the OR per the surgical procedure that allows maximum movement of the patient on the stretcher, provides the surgeon a clear view of the patient from the console, clear traffic pathways, and tension-free connections of the cables between equipment.
      (1) The components should be arranged according to non-sterile and sterile areas to keep traffic and communication pathways clear.
         a. The surgeon console is arranged in the non-sterile area that allows the surgeon a clear view of the patient and sterile field.
         b. The vision cart is arranged in the non-sterile area that can be accessed by the circulator and viewed by the CST.

c. The patient cart is initially placed away from the OR table and draped; it is moved into the sterile field once the patient has been positioned and draped.

C. When connecting components to the main power outlet(s) extension cords must not be used.

2. The CST should confirm all necessary supplies and instruments have been "pulled" prior to transporting the case cart into the OR. Items to confirm include the endoscopes; endoscope sterile adapter; camera arm sterile adapter; drapes for the camera and instrument arms; endoscopic light cable Veress needle; two 12 mm sharp trocars with sheaths; and three 5 or 8 mm sharp or blunt (surgeon's preference) trocars with sheaths.
3. The CST should perform all other routine duties that are completed prior to any type of surgical procedure including opening sterile supplies and instruments to establish the initial sterile field on the back table; perform the surgical scrub; gown and glove self; set up the sterile back table.
   A. The CST should carefully inspect all instrumentation for proper functioning and defects with specific attention to the EndoWrist® instruments.
4. The CST and circulator work as a team in draping the instrument and camera arms. The drapes must not be positioned too tightly as this will impede the range of motion of the robotic arms.[7]
   A. It is recommended the CST and circulator practice as a team draping the arms prior to working together during surgical procedures.
      (1) The draping of the arms is a complex process and demands close observation by the two team members to make certain there are no breaks in sterile technique. Prior practice aids in creating a team that can anticipate the actions of each other as well as facilitate positive communication skills.
   B. The CST and circulator should follow the steps for draping the patient cart as provided by Intuitive Surgical, Inc. and manufacturer of the specialty drapes. The following is a brief outline of the steps of the draping procedure.
      (1) All cables are first connected: system, focus control, optical channels, and power. The system can then be turned on and it will perform a self-test to confirm system operability. During the self-test, the circulator must not move the arms or any other part of the system or it will activate a fault.
      (2) The circulator positions the instrument and camera arms to as to allow enough room for draping by the CST.
      (3) The arms are removed from stow position and the home sequence initiated. The CST and circulator should verbally confirm they heard three audible beeps when the homing sequence has completed.
      (4) The instrument arms should be completely covered by the sterile drape. Each arm is separately draped; therefore, the CST must have three drapes on the back table.[9] Each arm should be fully extended while draping to allow the CST to easily slide the drape over the arm.[1] Standing in front of an arm the CST places the drape over the arm and the circulator assists by grasping the inside of the drape to help pull through. As each arm is draped, the CST should slightly move the arm to the side to prevent contamination of the drape by the non-draped arms. The trocar mount of the S systems is permanently attached and must be covered by the drape.

(5) The camera arm is draped in the same way. The S systems require a camera arm sterile adapter. Depending on when the HDO purchased the system, some systems require a separate sterile endoscope trocar mount, while other systems the mount is permanently attached.
(6) Next, the touchscreen monitor is draped.
(7) The endoscope is draped by connecting the camera sterile adapter to the endoscope and taping the drape to the sterile adapter. The camera head is connected to the endoscope and the drape inverted over the camera head and optical cables.
(8) The sterile light cable is connected to the endoscope and the camera and endoscope are activated. The CST completes the white balance of the endoscope/camera head apparatus by using a sterile piece of white paper. The CST can complete the white balance using the camera head or touchscreen monitor.
(9) The CST now completes the 3D calibration to align the endoscope and establish the endoscope settings. The CST uses the alignment target on the tip of the endoscope in conjunction with the camera head or touchscreen monitor. Each endoscope that may be used during the procedure must be calibrated.
(10) The last step completed by the CST is setting what is referred to as the "sweet spot" of the camera arm by aligning the trocar mount with the center of the patient cart column and extending the camera arm to establish about 20" of space between the back of the camera arm and patient cart. The CST should use the guide on the camera arm that helps to set the sweet spot. This step is necessary to allow for maximum range of motion (ROM) of the arms and prevent hitting each other.

5. CST completes additional routine duties prior to the start of the intraoperative phase including gowning and gloving the surgeon(s); assist with draping the patient; set up electrocautery, suction, camera, and light cords.

Intraoperative Guidelines

Guideline VII
The CST at the sterile field assists the surgeon in performing a safe robotic surgical procedure.

1. During the intraoperative phase the CST carries out the following duties to assist the surgeon in the performance of a safe robotic surgical procedure. This list is not all inclusive since there are multiple routine duties the CST completes during any type of surgical procedure.
   A. The CST follows the standard procedure in assisting the surgeon with insertion of the trocars.
      (1) After the pneumoperitoneum is established, a 12 mm trocar with sheath is placed to be used for the endoscope; another 12 mm trocar is placed for the camera arm.
      (2) 5 or 8 mm sheaths with blunt or sharp trocars are placed for the instruments arms.

B. The patient cart is moved into position (referred to as "docking") by the circulator using the motor drive aligning the patient cart tower, arms and anatomy.[8]
   (1) When docking the patient cart, the team should assist the circulator in avoiding hitting, pinching, or pushing against the patient's arm, body, or leg.[7]
C. The camera arm is the first arm to be connected to the patient by locking the camera trocar mount to the camera trocar.[7, 8] The CST should not use the camera clutch to move the camera arm as this will limit the ROM of the camera. The camera setup joint buttons must be used to move the camera arm into position and the camera clutch to fix the arm in place.
D. Next, the instrument arms are attached to the robotic trocars. Snap mounted devices are used to place the instrument arms. Just as with the camera arm, the port clutch is used to move the instrument arms and the instrument clutch used for establishing the final trajectory.
   (1) When all arms are connected, the surgical team should confirm each arm for proper working distance and ensure the arms are not applying pressure on the patient; the team members should verbally confirm these two items.
   (2) When the first instrument arm is connected the motor drive brakes of the patient cart automatically lock to keep the cart from moving. For safety purposes, a yellow LED on the motor drive labeled "Cannula installed; Cart drive disabled" will light up when the first instrument arm is connected and the motor drive brakes are locked.[16]
E. Prior to the insertion of the endoscope the CST must prevent fogging of the lens. The CST can perform one of two methods to prevent fogging of the lens.
   (1) Place the end of the endoscope that contains the lens in a basin of body temperature sterile water while setting up the sterile back table.
   (2) Use a commercial product such as FRED™ (fog reduction/elimination device); the product should be used per manufacturer's instructions.
F. The CST assists by inserting the endoscope and instruments into the arms while the surgeon has direct visualization of the ends of the sheaths at the surgeon's console.
   (1) During insertion of the endoscope and instruments the CST must be careful not to puncture the sterile drapes covering the arms.
   (2) The CST inserts the endoscope by placing the lens into the sheath and locking it into the camera trocar mount. The CST then advances the endoscope through the sheath into the surgeon's view of the surgical field using the camera clutch button.
   (3) Prior to inserting the EndoWrist® instruments, the CST should verbally confirm with the surgeon that the wrist is straight and not at an angle to avoid damage to the instrument. The CST places the instrument tip into the sheath and slides the instrument housing into the adapter. Next, the CST advances the instrument through the sheath into the surgeon's view of the surgical field using the instrument clutch button. The endoscope and each instrument are placed into the patient by the CST while the surgeon views the surgical field at the surgeon console.

G. Throughout the procedure, the CST removes and exchanges instruments and endoscopes from the arms, and guides both items into the sheaths as needed and requested by the surgeon. (S. Walsh, personal communication, July 21, 2012)
   (1) To remove an instrument, the CST verbally confirms with the surgeon the wrist of the instrument is straight; the CST squeezes the release levers and pulls the instrument out.[7] The CST then performs the steps as outlined above for the insertion of the next instrument. The S systems offer a guided tool change where the next instrument is inserted and placed to a depth of 1 mm short of the previous instrument position.[7]
   (2) Verbal communication between the CST and surgeon is always important, but it is of particular importance during robotic surgical procedures during the insertion and exchange of the endoscope and instruments to avoid movements that could damage the items and/or injure the patient. The system is equipped with an audio intercom that allows the surgeon to clearly communicate with the CST and circulator while still looking into the viewer of the surgeon console.[9]
   (3) When exchanging instruments the CST should clean the tips of the instruments with instrument wipes.
   (4) When the CST exchanges an endoscope, the end is cleaned when indicated and a de-fogging agent should be applied prior to insertion into the patient.

H. When needed during gynecological procedures, the CST may manipulate/move the uterus for visualization as required and directed by the surgeon.

I. When needed during genitourinary procedures, the CST may apply traction to the Foley catheter and/or replaces the catheter as required and directed by the surgeon.

J. To facilitate removal of tissue or an organ from a body cavity, the CST may grasp and insert the Endo Catch™ or Endobag™ as required and directed by the surgeon.

2. When the surgical procedure is completed, the instruments are removed first followed by the endoscope.
   A. The arms are disconnected from the trocars and the patient cart undocked from the patient. The motor drive of the patient cart will not be activated until all the instruments and endoscope with camera are removed, and all the arms disconnected.
   B. The surgeon re-enters the sterile field to extend a trocar incision to deliver the specimen retrieval bag.
   C. The CST must have the suture for fascial closure of the extended incision and 12 mm trocar incisions. The 5 and 8 mm trocar openings usually do not require fascial closure.
   D. If another robotic procedure is scheduled, the system does not need to be turned off.

Guideline VIII
The CST should be prepared to work with the robotic team troubleshooting system technical errors.

1. The CST should exhibit knowledge of the systems internal capabilities to assist the team in troubleshooting.
   A. The system has the ability to store memory of past technical errors.

B. The system has the internal ability to allow the surgical team to interact "live" with technical engineers at Intuitive Surgical, Inc.[8]
   (1) The system is connected through the Internet and transmits computerized messages to the technical engineers. The engineers log-in and can read what the team is seeing on the monitors in the OR allowing them to diagnose the problem and possibly fix it from the Intuitive Surgical, Inc. headquarters.[8]
   (2) When a technical error occurs, the team must follow the instructions displayed on the monitors. There are two faults: "recoverable" and "nonrecoverable".
      a. A recoverable fault is a technical error and the surgical procedure can continue after the team has confirmed the error and fixed it. The system has a set of alarms to indicate a recoverable fault as well as messages on the monitors and flashing LEDs on the patient cart arms. The system locks when the fault occurs and is unlocked by the team once it is resolved.
      b. A nonrecoverable fault cannot be fixed; the team must shut down the system and convert to an open procedure.

Guideline IX
The CST must be prepared for conversion to an open procedure such as in the event of a nonrecoverable fault of the robotic system or patient emergency, e.g., unanticipated hemorrhaging.

A. The CST must exhibit the proper knowledge and skills to quickly and safely assist the surgical team by properly removing and placing on the sterile back table the endoscope, camera, and instruments to allow the circulator to move components away from the sterile field.
   (1) An emergency power-off button is located on the back of the surgeon console that will completely turn off the power to the whole system.
   (2) The CST must remove the instruments and endoscope from the patient, and disconnect the arms from the sheaths to allow the circulator to undock the patient cart. A well-trained team performing in a coordinated effort should complete these actions in two to four minutes.[9]

Postoperative Guidelines

Guideline X
The CST is responsible for break-down of the sterile back table including the initial decontamination of the robotic instrumentation and accessory items.

1. The first step in the decontamination process occurs in the operating room (point-of-use).[5]
   A. The CST is responsible for pre-soaking the contaminated instruments to prevent organic material from drying prior to transport in the case cart to the decontamination room.
      (1) The CST must follow the robotic manufacturer's instructions for the decontamination of the endoscopes, instrumentation and accessory items.
      (2) The CST must exhibit careful technique handling robotic items when placing in the pan(s) for pre-soaking, placing the pans in the case cart, and transporting to the decontamination room to prevent damage to the items.

2. CSTs who work in central sterile supply or work in small HDOs where they work in the surgery and central sterile supply departments, are responsible for the further decontamination, preparation, and sterilization of the robotic items.
   A. The CST must follow the robotic manufacturer's instructions for decontamination, preparation and sterilization of the robotic items.
      (1) If using a da Vinci® robot system with endoscope and EndoWrist® instrumentation, it is recommended to use the information published on the Intuitive Surgical web site such as the *Reprocessing Instructions*.[13]

Competency Statements

Competency Statements	Measurable Criteria
1. CSTs have the knowledge and skills to prepare the robotic components, instruments and accessories for surgery.	1. Educational standards as established by the *Core Curriculum for Surgical Technology*.[4]
2. CSTs have the knowledge and skills to assist the surgeon in performing robotic surgical procedures that ensure the safety of the patient and surgical team.	2. The didactic subject of robotic surgery is included in a CAAHEP accredited surgical technology program.
3. CSTs have the knowledge and skills to identify and work with the team to trouble-shoot robotic equipment malfunctions.	3. Students demonstrate knowledge of robotic surgical procedures during clinical rotation, given that the surgery department performs robotic surgery.
4. CSTs have the surgical patient care knowledge and skills to assist the surgical team in responding to patient complications including conversion to an open procedure.	4. CSTs complete hands-on training specific to each type of robotic device.
5. CSTs have the knowledge and skills to decontaminate, prepare and sterilize the specialty robotic instruments and accessories.	5. CSTs complete continuing education to remain current in their knowledge of robotic surgery.[3]

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AST SURGICAL TECHNOLOGY CONFERENCE

DENVER

MAY 30 - JUNE 1, 2024

AST
Association of Surgical Technologists

Join us in our 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.

Denver, known for its craft breweries and scenic views is a great place to come and explore. Enjoy a ball game just blocks away from the hotel or go on a historic Denver walking tour where you're learn about the Wild Wild West and the history and tales of gold, underground banks, and the spirits that haunt them.

Enjoy the nice spring weather with endless outdoor patios, and great live music or explore the vibrant neighborhoods surrounding downtown including RiNo and LoHi.

THURSDAY, MAY 30TH, 2024 — 5 CEs

FS101 11:30 – 12:20 pm	**Yanik Bababekov, MD** *Pushing the boundaries of DCD liver transplantt*	
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 5 CEs

FS201 Noon - 12:50 pm	**Christopher Iobst, MD** *Solutions to surgical stress*	
FS202 Noon – 12:50 pm	**Josephine Colacci, Esq.** *AST government affairs updates*	
FS203 1:00 – 1:50 pm	**Marci Bowers, MD** *Transgender surgery*	
FS204 1:00 – 1:50 pm	**Gary Onik, MD** *Intratumoral immunotherapy - The next great breakthrough in immune-oncology*	
FS205 2:00 – 2:50 pm	**Andrea Bischoff, MD** *Pediatric colorectal surgery: When an amazing CST meets a great surgeon, magic happens*	
FS206 2:00 – 2:50 pm	**Rachel Reitan, MD** *The important role of the CST in GYN surgeries*	
FS207 3:00 – 3:50 pm	**Muhammed Aftab, MD** *Contemporary approaches to the brain protection with hypothermic circulatory arrest in aortic arch surgery*	
FS208 3:00 – 3:50 pm	**Jodi Widner, MD** *Decision making for lumpectomy vs mastectomy-when axillary staging is needed*	
FS209 4:00 – 4:50 pm	**Veronica Alaniz, MD** *Congenital anomalies of the reproductive tract*	
FS210 4:00-4:50pm	**Angela Downes, MD** *Basics of spine surgery and why we do what we do*	

SATURDAY, JUNE 1, 2024 5.5 CEs

FS301
10:10 – 11:00 am
Rachel Frank, MD
Joint preservation of the knee

FS302
10:10 – 11:00 am
Vikas Patel, MD
Motion preservation technologies in spine surgery

FS303
10:10-11:00 am
Malinda Elammari, CST
A CST guide to understanding sterile packaging

FS304
11:10 am - Noon
Christodoulos Kaotzanis, MD
Gender affirming surgeries

FS305
11:10 am - Noon
Fabio Grassia, MD
Epilepsy surgery and use of robotic surgery in epilepsy

FS306
11:10 am - Noon
Megan Dunegan, CST, CSFA
How to maintain excellent surgical conscience throughout your career

FS307
12:10 – 1:00 pm
Julian Winocour, MD
Breast reconstruction and lymphedema surgery

FS308
12:10 – 1:00 pm
Jason Yu, MD
Reconstructive surgery: The other side of plastics

FS309
12:10 – 1:00 pm
Eboni Saurage, EdD, MS, BSHS, CST
Cortney Hartman, CST
Advancing your career beyond the Mayo

FS310
1:10 – 2:00 pm
Akshay Chauhan, MD
Broader application of robotic platform in training in GI surgery

SATURDAY, JUNE 1, 2024 — 5.5 CEs

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, MD**
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).

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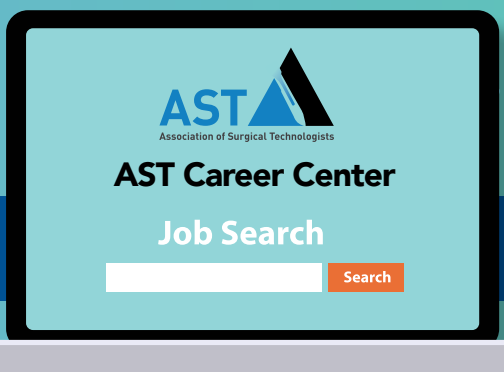

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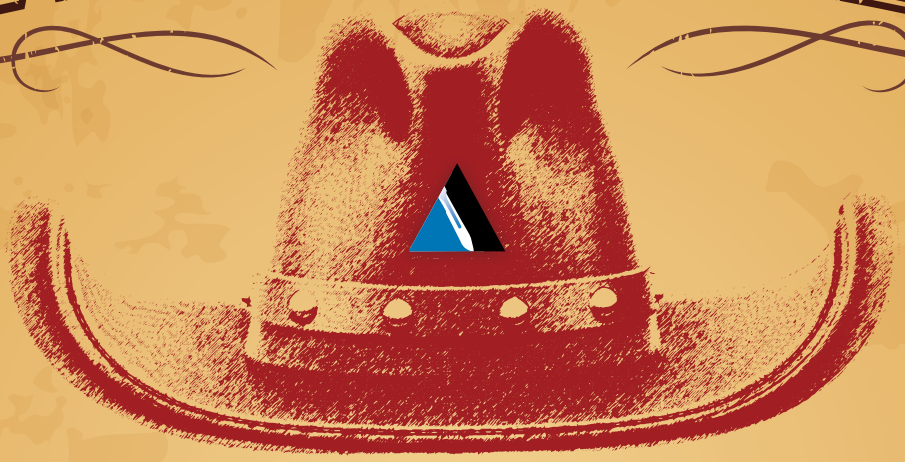

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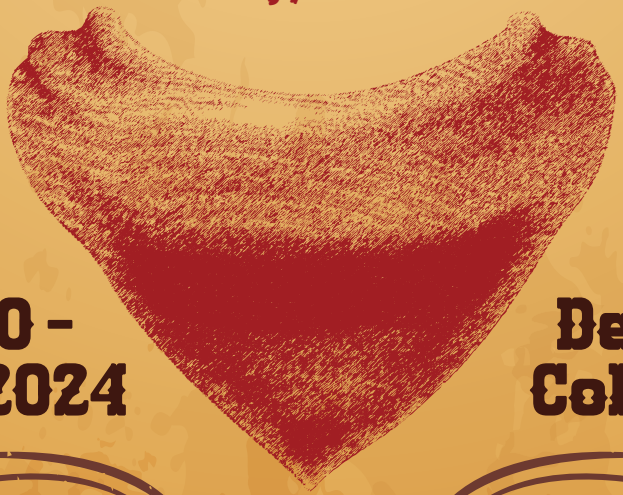


May 30 – June 1, 2024

Denver, Colorado

REWARD

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.

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: 7 Live

COLORADO/WYOMING STATE ASSEMBLY

Program Type: Webinar (approved only Colorado/Wyoming State Assembly members)
Date: September 7, 2024
Title: Getting Groovy
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: 5

GEORGIA STATE ASSEMBLY

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

IDAHO STATE ASSEMBLY

Program Type: Annual Meeting/Elections
Date: April 27, 2024
Title: Robotics in Surgery
Location: Saint Alphonsus Regional Medical Center (McCleary Auditorium), 1055 N Curtis Road, Boise, ID 83706
Contact: Dorothy Krasin, 2489 N Side Saddle Lane, Post Falls, ID 83854, 509-216-4001, dwinant85@gmail.com
CE Credits: 7

IOWA STATE ASSEMBLY

Program Type: Workshop
Date: April 13, 2024
Title: Iowa State Assembly Spring 2024 Workshop
Location: University of Iowa Hospitals and Clinics, 200 Hawkins Dr, Iowa City, IA 52242
Contact: Tim Danico, 319-540-6008, timothy-danico@uiowa.edu
CE Credits: 8

MARYLAND/DELAWARE STATE ASSEMBLY

Program Type: Workshop
Date: April 13, 2024
Title: Maryland Delaware State Assembly Workshop
Location: Atlantic Sands Hotel & Conference Center, 1 Baltimore Ave, Rehoboth Beach, DE 19971
Contact: Karen Jones, 29890 A K Lane, Laurel, DE 19956, 302-542-3179, mddestateassembly@gmail.com
CE Credits: 6

MASSACHUSETTS STATE ASSEMBLY

Program Type: Annual Meeting/Elections
Date: April 6, 2024
Title: It's Brain Surgery, Not Rocket Science
Location: St John of Damascus, 300 West St, Dedham, MA 02026
Contact: Kristen Urbanek, 187 Riverside Ave, Medford, MA 02155, 617-257-5384, mastateassembly@gmail.com
CE Credits: 4 Live

MAINE STATE ASSEMBLY

Program Type: Workshop
Date: April 27, 2024
Title: Maine State Assembly of AST Spring Conference
Location: Fore River Mercy Hospital, 175 Fore River Pkwy, Portland, ME 04102
Contact: Brittany Babb, 1298 Cape Road, Limington, ME 04049, 910-477-1559, brittany.babb@mainehealth.org
CE Credits: 5

MICHIGAN STATE ASSEMBLY

Program Type: Webinar (approved only Michigan State Assembly members)
Date: April 13, 2024
Title: Roll into Spring with MSA
Contact: Renona Gauthier, michiganassemblyofast@gmail.com
CE Credits: 3 Live

Program Type: Annual Meeting/Elections
Date: September 28, 2024
Title: Forever Changing with MSA
Location: Fischer Hall, 613 S Main St, Frankenmuth, MI 48734
Contact: Renona Gauthier, michiganassemblyofast@gmail.com
CE Credits: 5

MINNESOTA STATE ASSEMBLY

Program Type: Workshop
Date: April 13, 2024
Title: MNSA 2024 Spring Workshop
Location: Anoka Technical College, 1355 US-10 W, Anoka, MN 55303
Contact: Lori Molus, PO Box 163, Becker, MN 55308, 320-492-8747, mnast2016@outlook.com
CE Credits: 6

MONTANA STATE ASSEMBLY

Program Type: Annual Meeting/Elections
Date: September 7, 2024
Title: MTSA Annual Business Meeting/Elections and Workshop
Location: Benefis Health System, 1101 26th St South, Great Falls, MT 59405
Contact: Marsha Lyles, 406-670-8376, mnmcst@yahoo.com
CE Credits: 6

NEW HAMPSHIRE/VERMONT STATE ASSEMBLY

Program Type: Workshop
Date: April 6, 2024
Title: Spring Conference
Location: Dartmouth-Hitchcock Medical Center, One Medical Center Dr, Lebanon, NH 03756
Contact: Lynn Jones, PO Box 3312, Concord, NH 03302, 603-370-1489, nhvtstateassembly@gmail.com
CE Credits: 6

NEW JERSEY STATE ASSEMBLY

Program Type: Workshop
Date: April 13, 2024
Title: New Jersey Spring 2024 Workshop
Location: Hackensack Medical Center, 30 Prospect Ave, Hackensack, NJ 07601
Contact: Monica Pelaez, 189 Concord St, New Milford, NJ 07646, 201-618-7398, monicalpelaez_39@hotmail.com
CE Credits: 6

OHIO STATE ASSEMBLY

Program Type: Annual Meeting/Elections
Date: April 5-7, 2024
Title: Best in the Midwest
Location: Nationwide Hotel and Conference Center, 100 Green Meadows Drive South, Lewis Center, OH 43035
Contact: Michael Pickering, PO Box 163351, Columbus, OH 43216, 614-439-3428, ohioast@gmail.com
CE Credits: 15

OKLAHOMA STATE ASSEMBLY

Program Type: Annual Meeting/Elections
Date: April 20, 2024
Title: Spring Conference and Elections
Location: Canadian Valley Technology Center, 1701 S Czech Hall Road, Yukon, OK 73099
Contact: Miguel Agosto, 1800 Caribou Circle, Altus, OK 73521, 580-301-1648, miguelagosto100@gmail.com
CE Credits: 6

SOUTH DAKOTA STATE ASSEMBLY

Program Type: Workshop
Date: April 26-27, 2024
Title: SDSA Spring 2024 Conference
Location: Lake Area Technical College, 1201 Arrow Ave, Watertown, SD 57201
Contact: Stacey Vande Zande, 1217 Sunset St. NW, Watertown, SD 57201, 605-520-1516, sanortje@yahoo.com
CE Credits: 9

VIRGINIA STATE ASSEMBLY

Program Type: Annual Meeting/Elections
Date: April 6, 2024
Title: VCSA Spring Fling - Annual Business Meeting, Elections and Workshop
Location: Reynolds Community College - Downtown Campus, 700 N 8th St, Richmond, VA 23219
Contact: Lisa Day, 540-422-9471, ldaycsfa@gmail.com or virginiastateassembly@gmail.com
CE Credits: 5 Live

WASHINGTON STATE ASSEMBLY

Program Type: Workshop
Date: April 6, 2024
Title: New Beginnings Spring Workshop and Scrub Bowl
Location: Yakima Valley College, W Nob Hill Blvd & S 16th Ave, Yakima, WA 98902
Contact: Valerie Smith, 18336 Aurora Ave N Suite 105 Shoreline WA 98133-8777 PO Box 55153, 509-249-2963, washingtonstateassembly.ast@gmail.com
CE Credits: 7

WEST VIRGINIA STATE ASSEMBLY

Program Type: Workshop
Date: April 13, 2024
Title: Spring Workshop
Location: St Mary's Medical Center, 2900 1st Ave, Huntington, WV 25702
Contact: Meloney McRoberts, 100 College Dr, Logan, WV 25637, 304-784-2772, meloney.mcroberts@southernwv.edu
CE Credits: 6

WISCONSIN STATE ASSEMBLY

Program Type: Workshop
Date: April 6, 2024
Title: Hands-on Learning Spring 2024
Location: Northeast Wisconsin Technical College, 2740 West Mason St, Green Bay, WI 54303
Contact: Nicole Sexton, 4564 BK Line Road, Luxemburg, WI, 54217, 920-676-0537, wisconsinast@gmail.com
CE Credits: 6 Live

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.

COLORADO/WYOMING
TBA
October 26, 2024
Annual Meeting
2024 BOD Elections
& 2025 Delegate
Elections

IDAHO
Boise
April 27, 2024
Annual Meeting
2024 BOD Elections
& 2024 Delegate
Elections

MASSACHUSETTS
Dedham
April 6, 2024
Annual Meeting
2024 BOD Elections
& 2024 Delegate
Elections

MICHIGAN
Frankenmuth
September 28, 2024
Annual Meeting
2024 BOD Elections
& 2025 Delegate
Elections

MONTANA
Great Falls
September 7, 2024
Annual Meeting
2024 BOD Elections
& 2025 Delegate
Election

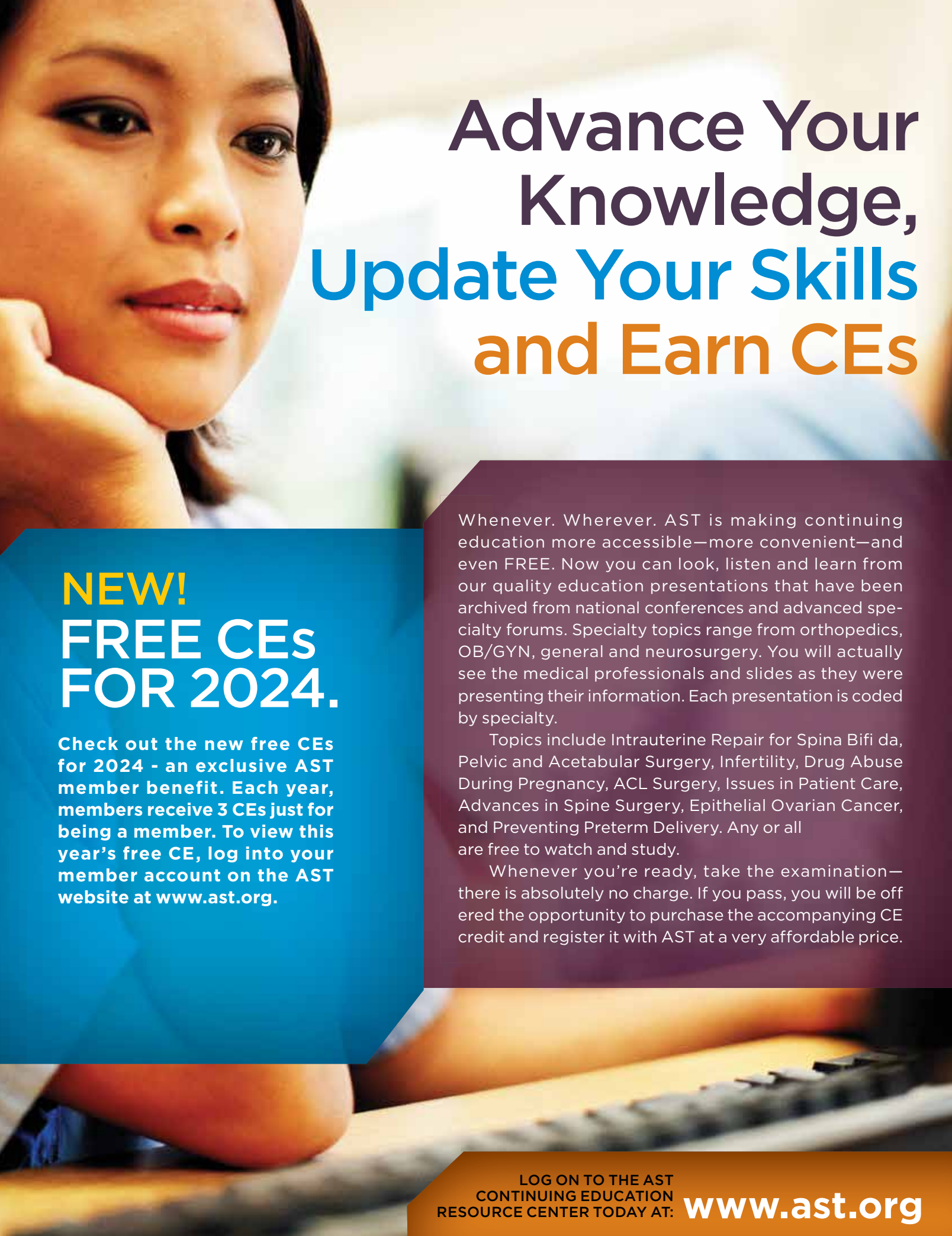
OHIO
Lewis Center
April 5-7, 2024
Annual Meeting
2024 BOD Elections
& 2024 Delegate
Elections

OKLAHOMA
Yukon
April 20, 2024
Annual Meeting
2024 BOD Elections
& 2024 Delegate
Elections

VIRGINIA
Richmond
April 6, 2024
Annual Meeting
2024 BOD Elections
& 2024 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 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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The Modern-Day Caesarean Section 1.5 CEs

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Staged Rapid Source Control Laparotomy in Emergency General Surgery 1 CE

Functional Endoscopic Sinus Surgery with Image-Guided Navigation 1 CE

PJACT: Treating Articular Cartilage Defects 1 CE

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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

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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AST SURGICAL TECHNOLOGY CONFERENCE

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MAY 30 - JUNE 1, 2024