



# cst

## **CANDIDATE HANDBOOK**

**2021** 1<sup>ST</sup> Edition

National Examination for the  
**Certified Surgical Technologist**



THE NATIONAL BOARD OF SURGICAL TECHNOLOGY  
AND SURGICAL ASSISTING

SINCE 1970

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## Section One

# About the NBSTSA

### MISSION AND VISION

The mission of the NBSTSA is to be the gold standard provider of professional certification of surgical technologists (CST) and surgical first assistants (CSFA), supporting continuing education, thus promoting superior patient care in the surgical setting.

The vision of the NBSTSA is to continue to operate as the gold standard provider of credentialing services for surgical technologists and surgical first assistants, and to expand the provision of high quality, safe patient care in the healthcare community.

### HISTORY AND PURPOSE

Certification for surgical technology began in 1970 when the first examinations were created and administered by the AORT Advisory Committee and the AORT Examination Committee. The National Board of Surgical Technology & Surgical Assisting (NBSTSA), initially the LCC-ST, was formally established in 1974 as the certifying agency for surgical technologists.

The NBSTSA is solely responsible for all decisions regarding certification of surgical technologists (CST) and surgical first assistants (CSFA). They determine eligibility to maintain, deny, grant and renew both designations.

The NBSTSA is governed by a ten member Board of Directors composed of:

- Seven Certified Surgical Technologists (CSTs) and Certified Surgical First Assistants (CSFAs);
- One public member;
- One surgeon, as appointed by the American College of Surgeons (ACS);
- One surgical technology educator

The purpose of the NBSTSA is to determine, through examination, if an individual has acquired both theoretical and practical knowledge of surgical technology or surgical first assisting. In addition, through the acquisition of continuing education credits or through re-examination, all CSTs and CSFAs are required to stay up to date with ongoing changes in the medical field.

### NATIONALLY ACCREDITED PROGRAM

The National Commission for Certifying Agencies (NCCA) reviews and grants accreditation to the NBSTSA for administration of both the CST and CSFA certifications.

The NCCA evaluates certifying agencies on a comprehensive set of criteria, including appraising the appropriate certification requirements, assessing the occupation being certified and weighing both the validity and reliability of the certifying examinations, as well as the extent to which the public interest is protected.

### PURPOSE OF CERTIFICATION

Certification as a surgical technologist or surgical first assistant demonstrates that the individual meets the national standard for knowledge that underlies surgical technologist and surgical first assistant practices. Certified individuals possess mastery of a broad range of skills related to surgical procedures, aseptic technique and patient care.

Certification exhibits an individual's pride in the profession, the desire to be recognized for mastery of scientific principles, as well as an ongoing commitment to quality patient care. Certification is a means for upward mobility, a condition for employment, a route to higher pay and a source of recognition nationwide.

Approved candidates who take and pass the CST or CSFA examinations are authorized to use the initials CST or CSFA respectively, as long as they maintain certification currency.

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## Section Two

# Eligibility

### ESTABLISHING ELIGIBILITY TO TEST

To become certified, individuals must first establish eligibility to test. The following table explains all available eligibility options and should be reviewed prior to submitting an examination application and related fees. The NBSTSA retains the sole authority to establish eligibility requirements, makes all final decisions regarding examination eligibility and does not refund processing fees or rush processing fees for candidates who apply and are found to be ineligible.

#### ELIGIBILITY TABLE

1	Current or previously Certified Surgical Technologist (CST)	Evidence of CST certification
2	A graduate of a surgical technology program accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) or the Accrediting Bureau of Health Education Schools (ABHES) <a href="http://www.caahep.org">www.caahep.org</a> <a href="http://www.abhes.org">www.abhes.org</a>	Evidence of graduation: copy of diploma, transcript or notarized and signed letter, <b>MUST</b> be on official school letterhead, from program director or registrar stating date of graduation from the surgical tech program and type of degree received.
3	A graduate of a military training surgical technology program	Evidence of graduation or DD214 or Joint Services Transcript

**Once you have determined that you are eligible to sit for the examination, submit your application, supporting documentation and testing fees to the NBSTSA for processing. Once approved, the NBSTSA will send you an Authorization To Test letter (ATT) which includes your ATT number and contact information for the testing agency, so you can schedule your examination.**

Individuals who obtained CST certification prior to September 1, 1977 can obtain current CST certification (with an expiring certificate and number). Candidates may obtain currency by earning and submitting 30 continuing education credits (that were earned in the two (2) years prior to application submission) or retaking and passing the CST examination. For further information on obtaining certification currency, contact the NBSTSA at 800-707-0057.





### SPECIAL ACCOMMODATIONS AND SERVICES

The National Board of Surgical Technology and Surgical Assisting (NBSTSA) provides reasonable accommodations in accordance with the Americans with Disabilities Act as amended (ADAAA) for individuals with documented disabilities who demonstrate a need for accommodation(s). In accordance with the ADAAA, the NBSTSA does not discriminate against individuals with disabilities in providing access to examination programs.

ADAAA regulations define a person with a disability as someone with a physical or mental impairment that substantially limits one or more major life activities such as walking, seeing, hearing or learning.

The purpose of accommodations is to provide equal access to NBSTSA examinations for all individuals. Accommodations “match up” with the identified functional limitation so that the area of impairment is relieved with an auxiliary aid or an adjustment to the testing procedure. Functional limitation refers to the aspects of a disability that interfere with an individual’s ability to function; that is, what someone cannot do on a regular and continuing basis as a result of their disability.

The purpose of documentation is to validate that an applicant for test accommodations is covered under the ADAAA as a disabled individual. Comprehensive information by a qualified professional is necessary to allow the NBSTSA to understand the nature and extent of the applicant’s disability and the resulting functional impairment that limits access to examinations. Documentation also allows the NBSTSA to provide appropriate accommodations for such a disability.

The NBSTSA will provide, without cost to the candidate, reasonable accommodations designed to facilitate equal access to its certifying examination for those candidates whose documentation supports such a determination. In no case will accommodations be provided which would compromise the examination’s ability to test accurately the skills and knowledge it professes to measure. Similarly, no auxiliary

aid or service will be provided that would fundamentally alter the examination.

**ADAAA confidentiality:** The NBSTSA strictly adheres to a policy of confidentiality and does not disclose names of applicants with disabilities or information concerning the application or accompanying documentation. Examinations administered with accommodations are not identified to third party score recipients and are scored no differently than examinations of other certification candidates. The application and guidelines related to examination accommodations may be found in the back of this Candidate Handbook.

### MILITARY APPLICANTS

Military applicants stationed overseas may request to test through their base education office, rather than at one of the NBSTSA’s established testing centers.

The base education center can administer a web based examination if the military post is more than 100 miles from a testing center. The NBSTSA will mail the test results directly to the testing candidate within six (6) weeks of the examination.

To utilize the NBSTSA military base education center applicants must select that option on the examination application, requesting administration through the base education center. NBSTSA staff will contact the applicant to determine the base name, geographic location (base and country), the testing officer’s name, mailing address and telephone number. All applications must be received by NBSTSA a minimum of 45 days prior to the requested examination date.

### NON-DISCRIMINATION POLICY

The NBSTSA accepts all properly completed applications from qualified applicants regardless of the applicant’s age, sex, race, religion, marital status, disability or national origin.

## Section Three

# Scheduling your Examination

### APPOINTMENT

When you receive your ATT letter and ATT number, you may contact PSI by one of the following methods. Be prepared to confirm a date and location for testing and to provide your ATT number as your unique identification number for scheduling.

**Schedule Online:** Candidates may schedule an examination appointment online by using the PSI online scheduling system.

To use this service:

- Visit [schedule.psiexams.com](http://schedule.psiexams.com).
- Follow the simple, step-by-step instructions to choose your examination program and schedule your examination.

**OR**

**Schedule by Phone:** Candidates may schedule an examination appointment by calling PSI at: 1-833-256-1425. This number is answered from:

- 7 a.m. to 9 p.m. (CST) Monday–Thursday
- 7 a.m. to 7 p.m. on Fridays
- 8:30 a.m. to 5 p.m. on Saturdays

The examinations are administered by appointment only Mon–Sat at 9 a.m. and 1:30 p.m. Individuals are scheduled on a first-come, first-serve basis.

If you call PSI by 3:00 p.m. Central Time on...	Upon availability, your examination may be scheduled beginning...
Saturday or Monday	Wednesday
Tuesday	Thursday
Wednesday	Friday/Saturday
Thursday	Monday
Friday	Tuesday

When the appointment is made, the candidate will be given a time to report to the Assessment Center. Please make a note of it since a confirmation letter will not be sent. Candidates will only be allowed to take the examination for which the appointment has been scheduled. No changes in examination type will be made at the Assessment Center. **UNSCHEDULED CANDIDATES (WALK-INS) WILL NOT BE ADMITTED** to the Assessment Center.

It is recommended that candidates call to schedule their test upon receipt of their ATT letter from the NBSTSA, even if they do not want to test immediately. The examination must be taken before the expiration date provided on the ATT letter to avoid forfeiture of examination fees.

### IDENTIFICATION

To gain admission to the Assessment Center, candidates must present two (2) forms of identification (*one must have a current photograph*). Both forms of identification must be current and include the candidate's current name and signature. The candidate will also be required to sign a roster for verification of identity and attendance.

Acceptable forms of identification include a current:

1. Driver's license with photograph
2. State identification card with photograph
3. Passport with photograph
4. Military identification card with photograph
5. Permanent resident card (green card) with photograph
6. Social Security card, employment ID card, student ID cards and any type of temporary identification are NOT acceptable as primary identification, but may be used as secondary identification.

Candidates are prohibited from misrepresenting their identities or falsifying information to obtain admission to the Assessment Center.

The name on the primary and secondary identification must match the name on your Authorization To Test letter (ATT).

If you do not have the required identification, PSI testing center staff will deny admission to the test and all testing fees will be forfeited, since an appointment was reserved for you.

### EXAMINATION DAY REPORTING TIME

PSI staff members will give you a specific reporting time when you schedule the examination. Please allow sufficient time to find the testing center. Make sure you have all

## Scheduling your Examination

necessary documents before you report for registration. A candidate who arrives 15 minutes or more after their scheduled testing time will NOT be admitted. Candidates who arrive late are considered absent and forfeit all examination fees paid.

### INCLEMENT WEATHER, POWER FAILURE OR EMERGENCY

In the event of inclement weather or unforeseen emergencies on the day of an examination, PSI will determine whether circumstances warrant the cancellation and subsequent rescheduling of an examination. The examination is not typically rescheduled if the Assessment Center personnel are able to open the Assessment Center. If power to an Assessment Center is temporarily interrupted during examination administration, the examination will restart where it was interrupted and the examination will continue.

Candidates may contact the PSI Weather Hotline at 800-380-5416 (24 hours/day) prior to the examination to determine if PSI has been advised that the Assessment Center is closed. Every attempt is made to administer the examination as scheduled; however, should an examination be cancelled at an Assessment Center, all scheduled candidates will receive notification regarding rescheduling or reapplication procedures. If PSI is unable to honor the appointment, the examination will be rescheduled to the first available appointment of your choice (within the specified ATT eligibility period). Candidates are asked to provide a primary phone number during the registration process so examination administrators can contact them in case of an unforeseen problem at the center.

In the event of an unforeseen personal emergency, variances from the policy may be considered when the candidate submits a written statement of the reason(s) they were unable to take the examination as scheduled or meet the 48 hour cancellation deadline. Candidates must contact NBSTSA office within five (5) business days of the missed exam. The written statements should be accompanied by supporting documentation and reach the NBSTSA headquarters no later than 30 business days after the scheduled examination.

There are six (6) acceptable reasons for late rescheduling or failing to appear:

1. Serious illness - either the candidate or immediate family members
2. Death of an immediate family member
3. Disabling accident
4. Court appearance or jury duty
5. Unexpected military duty call-up
6. Extenuating circumstances

Candidates must submit documentation in addition to a written request outlining their emergency for review by NBSTSA and PSI. Candidates will be notified as to whether or not they are approved to retake the examination. Candidates may be responsible for processing fees.

### EXAMINATION APPOINTMENT RESCHEDULING/FAILURE TO REPORT OR TO SCHEDULE AN EXAMINATION

A candidate may reschedule an examination appointment at no charge ONE (1) TIME by calling PSI at 1-833-256-1425 at least 48 hours prior to the scheduled testing session. Candidates should keep in mind that the rescheduled examination date must fall within their six (6) month examination eligibility period.

**A candidate who wishes to reschedule his/her examination appointment, but fails to contact PSI at least 48 hours prior to the scheduled testing session will forfeit the total testing fee and will need to reapply with the NBSTSA and submit the appropriate examination fee to receive a new Authorization To Test letter (ATT).**

### TEST ADMINISTRATION

After your identification has been confirmed, you will be directed to a testing carrel. You will be instructed on-screen to enter your social security number or ATT number. Your photograph will be taken and remain on the screen throughout your examination session. This photograph will also print on your score report. Prior to attempting the examination, you will be given the opportunity to practice taking an examination on the computer. The time you use for this practice examination



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# Scheduling your Examination

is NOT counted as part of your examination time or score. When you are comfortable with the computer testing process, you may quit the practice session and begin the timed examination.

### EXAMINATION RESTRICTIONS/ MISCONDUCT

- No textbooks, notes or study materials of any kind are allowed in the testing room.
- No personal items, valuables or weapons are allowed in the Assessment Center. Only keys and wallets may be taken into the testing room. The NBSTSA/PSI are not responsible for items left in the reception area. Use of cellular phones or other electronic devices is strictly prohibited and will result in dismissal from the examination.
- Pencils will be provided during check-in. You will be provided with scratch paper to use during the examination. You must sign and return the scratch paper to the supervisor at the completion of testing, or you will not receive a score report. No documents or notes of any kind may be removed from the examination room. If you need a second piece of scratch paper, you need to ask the test proctor for another piece of paper and turn in the one you used before.
- No questions concerning the content of the examination may be asked during the examination.
- The examination is four (4) hours in length. You may take a break whenever you wish, but you will not be allowed additional time to make up for time lost during breaks.

### EXAMINATION SECURITY

The NBSTSA and PSI maintain examination administration and security standards that are designed to assure that all candidates are provided the same opportunity to demonstrate their abilities. The Assessment Center is continuously monitored by audio and video surveillance equipment for security purposes. All examination questions are the copyrighted property of the NBSTSA. It is forbidden under federal copyright law to copy, reproduce, record, distribute and/or display these examination

questions by any means, in whole or in part. Candidates are not permitted to discuss examination contents or remove examination materials from the testing sites at any time. Doing so may subject the individual to severe civil and criminal penalties.

## RE-TESTING

Surgical technologist candidates who are unsuccessful in passing the examination may test up to a total of three (3) times in a calendar year. Candidates are required to pay the total testing fee (processing and examination) each time they test. Candidates will be required to submit another application to receive reauthorization to test. There is no waiting period before you may submit an application to re-test.

## DENIAL/REVOCATION OF CERTIFICATION POLICY

The NBSTSA may consider revocation or denial of certification. Examples of the activities that may cause revocation or denial of certification include, but are not limited to the following:

1. Possession, use or attempt to use altered or falsified certification cards or certificates;
2. Obtaining or attempting to obtain certification or recertification by fraud or deception;
3. Knowingly assisting another to obtain or attempt to obtain certification or recertification by fraud or deception;
4. Unauthorized possession or distribution of examination materials including reproduction of examination questions;
5. Violation of examination rules, including but not limited to, cheating on the examination.

The NBSTSA retains the sole authority to amend or repeal its policies regarding denial or revocation of certification at any time including, but not limited to, the authority to add new grounds for denial or revocation and add provisions for suspension of certification.

## RIGHT TO APPEAL POLICY

Individuals have the right to appeal decisions made by the NBSTSA regarding their certification, eligibility and/or recertification. Pass/Fail examination scores are not appealable to the Board of Directors and must be submitted to the NBSTSA Director of Operations with 30 days of the incident. The following describes the appeals process:

1. An individual must submit a written appeal by mail to the NBSTSA Board of Directors with current correspondence associated with the appeal (ex. examination denial notification) and supporting documentation (i.e. letters of recommendation, proof of graduation) with a \$100.00 non-refundable fee.
2. Appeals will be reviewed by the NBSTSA Board of Directors at their scheduled spring & fall meetings.
3. Candidates will be notified by the NBSTSA office of the final decision from the Board of Directors. Once a decision has been made by the NBSTSA Board of Directors, there is no further appeals process.



## Section Five

# Content Outline

### SURGICAL TECHNOLOGIST CERTIFYING EXAMINATION CONTENT OUTLINE

The CST examination content is based on tasks performed by CSTs nationwide. A job analysis survey was conducted to identify specific tasks related to the frequency and importance of Surgical Technologists nationwide. The results of the job analysis are used to develop the content outline for the examination, which is evaluated on a prescribed schedule to ensure that the overall examination content reflects current surgical technology practices.

The CST examination consists of 175 questions, 150 of which are scored. The 25 pretest items (unscored) are randomly distributed throughout the examination for the purpose of analysis and statistical evaluation. The passing score is the minimum number of questions that must be answered correctly. Candidates should refer to [nbtsa.org](http://nbtsa.org) for the number of questions which must be answered correctly in order to obtain a passing score. Score reports are provided to all candidates who take the examination.

#### I. PERIOPERATIVE CARE (91 items)

##### A. Preoperative Preparation (18 items)

1. Review surgeon's preference card.
2. Verify availability of surgery equipment (e.g., reserve equipment for surgery).
3. Don personal protective equipment.
4. Utilize preoperative documentation (e.g., informed consent, advanced directives, allergies, laboratory results).
5. Consider patient needs (e.g., bariatrics, geriatrics, pediatrics, immunocompromised, patient allergies).
6. Prepare the operating room environment (e.g., temperature, lights, suction, wiping down the room and furniture).
7. Coordinate additional equipment (e.g., bovie pad, pneumatic tourniquet, sequential compression devices, thermoregulatory devices, positioning devices).
8. Obtain instruments and supplies needed for surgery.
9. Perform medical hand wash.
10. Check package integrity of sterile supplies.
11. Open sterile supplies/instruments while maintaining aseptic technique.

12. Perform surgical scrub (e.g., initial, waterless).
13. Don gown and gloves.
14. Assemble and set up sterile instruments and supplies for surgical procedures.
15. Transport the patient to and from operating room.
16. Transfer patient to operating room table.
17. Apply patient safety devices (e.g., bovie pad, safety strap, protective padding, x-ray safety).
18. Apply patient monitoring devices as directed.
19. Participate in positioning the patient.
20. Prepare surgical site (e.g., hair removal, surgical preparation).
21. Gown and glove sterile team members.
22. Participate in draping the patient.
23. Secure cords/tubing to drapes and apply light handles.
24. Drape specialty equipment (e.g., c-arm, Da Vinci, microscope).
25. Participate in Universal Protocol (Time Out).

##### B. Intraoperative Procedures (61 items)

1. Maintain aseptic technique throughout the procedure.
2. Follow Standard and Universal Precautions.
3. Anticipate the steps of surgical procedures.
4. Perform counts with circulator at appropriate intervals.
5. Verify, receive, mix, and label all medications and solutions.
6. Provide intraoperative assistance under the direction of the surgeon.
7. Identify different types of operative incisions.
8. Identify instruments by:
  - a. function.
  - b. application.
  - c. classification.
9. Assemble, test, operate, and disassemble specialty equipment:
  - a. microscopes.
  - b. computer navigation systems.
  - c. thermal technology.
  - d. laser technology (e.g., helium, argon, CO2 beam coagulators).
  - e. ultrasound technology (e.g., harmonic scalpel, phacoemulsification).
  - f. endoscopic technology.
  - g. power equipment.
10. Assemble and maintain retractors.
11. Pass instruments and supplies.



## Section Five

# Content Outline

12. Identify appropriate usage of sutures/needles and stapling devices.
13. Prepare, pass, and cut suture material as directed.
14. Provide assistance with stapling devices.
15. Differentiate among the various methods and applications of hemostasis (e.g., mechanical, thermal, chemical).
16. Irrigate, suction, and sponge operative site.
17. Monitor medication and solution use.
18. Verify with surgeon the correct type and/or size of specialty specific implantable items.
19. Prepare bone and tissue grafts (e.g., allograft, autograft, synthetic).
20. Verify, prepare, and label specimen(s).
21. Prepare drains, catheters, and tubing for insertion.
22. Observe patient's intraoperative status (e.g., monitor color of blood, blood loss, patient position).
23. Perform appropriate actions during an emergency.
24. Initiate preventative actions in potentially harmful situations.
25. Connect and activate drains to suction apparatus.
26. Prepare dressings and wound site.
27. Assist in the application of casts, splints, braces, and similar devices.

### **C. Postoperative Procedures (12 items)**

1. Report medication and solution amount used.
2. Participate in case debrief.
3. Remove drapes and other equipment (e.g., suction, cautery, instrumentation, nondisposable items) from patient.
4. Report abnormal postoperative findings (e.g., bleeding at surgical site, hematoma, rash).
5. Dispose of contaminated waste and drapes after surgery in compliance with Standard Precautions.
6. Transfer patient from operating table to stretcher.
7. Dispose of contaminated sharps after surgery in compliance with Standard Precautions.
8. Perform room clean up and restock supplies.

## **II. ANCILLARY DUTIES (26 items)**

### **A. Administrative and Personnel (9 items)**

1. Revise surgeon's preference card as necessary.
2. Follow proper cost containment processes.
3. Utilize computer technology for:
  - a. surgeon's preference cards
  - b. interdepartmental communication
  - c. continuing education.
  - d. research.
4. Follow hospital and national disaster plan protocol.
5. Recognize safety and environmental hazards (e.g., fire, chemical spill, laser, smoke).
6. Understand basic principles of electricity and electrical safety.
7. Apply ethical and legal practices related to surgical patient care.
8. Use interpersonal skills (e.g., listening, diplomacy, responsiveness) and group dynamics.
9. Understand the importance of cultural diversity.
10. Understand concepts of death and dying.
11. Participate in organ and tissue procurement.
12. Serve as preceptor to perioperative personnel.

### **B. Equipment Sterilization and Maintenance (17 items)**

1. Troubleshoot equipment malfunctions.
2. Decontaminate and clean instruments and equipment.
3. Inspect, test, and assemble instruments and equipment.
4. Sterilize instruments for immediate use (e.g., short cycle).
5. Package and sterilize instruments and equipment.

## **III. BASIC SCIENCE (33 items)**

### **A. Anatomy and Physiology (20 items)**

1. Use appropriate medical terminology and abbreviations.
2. Demonstrate knowledge of anatomical systems as they relate to the surgical procedure:
  - a. cardiovascular.
  - b. endocrine.
  - c. gastrointestinal.
  - d. genitourinary.
  - e. integumentary.
  - f. lymphatic.
  - g. muscular.
  - h. neurological.
  - i. ophthalmic.
  - j. otorhinolaryngology.
  - k. peripheral vascular.
  - l. pulmonary.
  - m. reproductive.
  - n. skeletal.

## Section Five

# Content Outline

3. Demonstrate knowledge of human physiology as they relate to the surgical procedure:
  - a. cardiovascular.
  - b. endocrine.
  - c. gastrointestinal.
  - d. genitourinary.
  - e. integumentary.
  - f. lymphatic.
  - g. muscular.
  - h. neurological.
  - i. ophthalmic.
  - j. otorhinolaryngology.
  - k. peripheral vascular.
  - l. pulmonary.
  - m. reproductive.
  - n. skeletal.
4. Identify the following surgical pathologies:
  - a. abnormal anatomy.
  - b. disease processes.
  - c. malignancies.
  - d. traumatic injuries.

### **B. Microbiology (6 items)**

1. Apply principles of surgical microbiology to operative practice:
  - a. classification and pathogenesis of microorganisms (e.g., cultures).
  - b. infection control procedures (e.g., aseptic technique).
  - c. principles of tissue handling (e.g., Halsted principles, tissue manipulation methods, traction/counter traction).
  - d. stages of, and factors influencing wound healing (e.g., condition of patient, wound type).
  - e. surgical wound classification.
2. Identify and address factors that can influence an infectious process.

### **C. Surgical Pharmacology (7 items)**

1. Apply principles of surgical pharmacology to operative practice:
  - a. anesthesia related agents and medications.
  - b. blood and fluid replacement.
  - c. complications from drug interactions (e.g., malignant hyperthermia).
  - d. methods of anesthesia administration (e.g., general, local, block).
  - e. types, uses, action, and interactions of drugs and solution (e.g., hemostatic agents, antibiotics, IV solutions).
  - f. weights, measures, and conversions.
2. Maintain awareness of maximum dosage.

Effective date 1/2/2019

## **SAMPLE QUESTIONS FOR THE CST EXAMINATION**

The following questions are representative of those which appear on the CST examination. For the following questions, choose the one best answer to each.

**1. To revascularize the heart muscle, a graft may be anastomosed between which of the following vessels?**

- A. Aorta and coronary artery
- B. Aorta and superior vena cava
- C. Carotid artery and pulmonary vein
- D. Pulmonary artery and coronary artery

**2. When performing a urinary bladder catheterization it is ESSENTIAL that the circulator:**

- A. Shave the pubis
- B. Keep the catheter tip sterile
- C. Inflate the balloon in the urethra
- D. Use the largest catheter available

**3. Traction sutures are used on common duct explorations to:**

- A. Ligate the duct
- B. Close the duct
- C. Hold the duct open
- D. Keep the stones in

**4. In which of the following prostatic approaches is a resectoscope used?**

- A. Perineal
- B. Suprapubic
- C. Retropubic
- D. Transurethral

**5. Heaney clamps are used MOST frequently on a:**

- A. Hysterectomy
- B. Lobectomy
- C. Cystectomy
- D. Gastrectomy

**ANSWERS: 1-A, 2-B, 3-C, 4-D, 5-A**

## Section Five

# Content Outline

### CST REFERENCE LIST

The Certification Examination Reference Lists contain the texts used to develop the questions for the certification examinations. The CST Examination Review Committee uses the most current edition of each text listed for reference when creating examination questions.

New editions of each text may be published after the Candidate Handbook is printed. Candidates need to be sure they utilize the most recent edition of each text. Candidates may find the texts at libraries, bookstores or on the internet.

### CST EXAMINATION RECOMMENDED REFERENCES

The most current editions of the books listed below are used for reference by the NBSTSA and the CST-ERC.

#### SURGERY

- Alexander's Care of the Patient in Surgery, 2019, 16th Edition, Jane C. Rothrock  
ISBN# 9780323479141
- Surgical Technology: Principles and Practice, 2018, 7th Edition, Joanna Kotcher  
ISBN# 9780323394734
- Surgical Technology for the Surgical Technologist: A Positive Care Approach, 2018, 5th Edition, Kevin Frey  
ISBN# 9781305956414

#### A&P

- Recommended Addition: Principles of Anatomy and Physiology, 2013, 14th Edition, Tortora  
ISBN# 9781118345009

#### PHARMACOLOGY

- Pharmacology for the Surgical Technologist – 2017, 4th Edition, Snyder & Keegan  
ISBN# 9780323415019

#### REFERENCE

- Taber's Cyclopedic Medical Dictionary, 2017, 23rd Edition, F.A. Davis  
ISBN# 9780803659049

### MISC/INSTRUMENTATION

- Surgical Instrumentation: 2018, 3rd Edition – Nemitz  
ISBN# 9780323523707
- AST Guidelines for Best Practices in Surgical Technology  
[www.ast.org/AboutUs/Position\\_Statements](http://www.ast.org/AboutUs/Position_Statements)
- American Heart Association – CPR Guidelines  
[www.heart.org](http://www.heart.org)

### STUDY TIPS

- 1. Learn about the examination by reviewing your candidate handbook:** This candidate handbook contains a content area outline, recommended reference list and sample questions.
- 2. Examination content area outline:** Familiarize yourself with each subject listed in the outline, all of these items may appear on the examination.
- 3. Recommended reference list:** These references were used to create the examination questions. Cross reference the content outline with these materials.
- 4. Practice:** The NBSTSA offers Practice Examinations online at [nbtsa.org](http://nbtsa.org). Candidates can print this to continue to study from and will receive analysis of individual questions and overall performance.
- 5. Go mobile:** The NBSTSA offers a mobile study app supported by Apple and Android devices. Study over 300 questions on the go!  
*\*App offers the same questions as the Practice Examinations.*
- 6. Evaluate:** Complete the Examination Study Evaluation on [nbtsa.org](http://nbtsa.org) to find out what areas of the examination you need to focus your study attention.
- 7. Connect:** Like us on Facebook and connect with other candidates and CSTs and find out what did and didn't work for them when taking the examination. Find people in your area and create a study group!



[illegible]

This image shows a full page of blank, lined paper. It features approximately 20 horizontal blue lines spaced evenly across the page, typical of notebook or legal stationery. The lines are thin and light blue, set against a plain white background. There are no margins, text, or other markings present.

# 2021 Certified Surgical Technologist (CST) Examination Application



Please read entire application and complete fully. Allow 4 - 6 weeks for processing. If you have any questions, please contact the NBSTSA Certification Department directly at (800) 707-0057 or email questions to [mail@nbstsa.org](mailto:mail@nbstsa.org).

Current Last Name First (**Legal name**) Middle

Other Names You Have Used (e.g., maiden name, etc. Please include copy of legal documentation to change name on file.)

Mailing Address (include apartment # if applicable) City State Zip Code

Home Phone Number Work Phone Number Cell Number

Social Security Number

Primary Email

**Are you a member of AST/ASA?** ☐ No ☐ Yes, member number \_\_\_\_\_

## ELIGIBILITY OPTIONS:

Check the appropriate eligibility level box. Incomplete applications will not be accepted.

\*Proof of graduation must include school name, date of graduation and type of degree received.

**Eligibility Option** (please select one of the following and include all required documents):

- |  |  |
|--|--|
| <input type="checkbox"/> Graduate of a CAAHEP or ABHES accredited Surgical Technology Program.<br><input checked="" type="checkbox"/> <i>Copy of a diploma, transcript or notarized and signed letter from Program Director or registrar stating date of graduation from the surgical technology program and the type of degree received. Must be on official school letterhead.</i> | <input type="checkbox"/> Graduates of a military training surgical technology program.<br><input checked="" type="checkbox"/> <i>Copy of a diploma, DD214 or Joint Services Transcript (Must state the location of the military base where the program was completed.)</i><br><input type="checkbox"/> Retake<br><i>Please note, original documents such as social security cards and marriage certificates should not be provided. Copies only.</i> |
|--|--|

## ☐ EDUCATION:

Name of School City, State

Pre-grad application (not testing on campus) ☐ Yes ☐ No

If testing with class on campus (WBT), list school code and test date: \_\_\_\_\_

## SPECIAL ACCOMMODATIONS:

Are you requesting special accommodations due to physical impairment(s) or disability? ☐ Yes ☐ No

If you are requesting special accommodations, you must include a comprehensive report from a qualified physician describing your disability and/or any other documentation which will assist in an informed decision by the NBSTSA regarding your request for accommodations as described in the Guidelines For Documenting a Request for Test Accommodations.

**Overseas testing:** Are you requesting overseas testing? ☐ Yes ☐ No (If yes, please email NBSTSA at [mail@nbstsa.org](mailto:mail@nbstsa.org))

## FEES:

- AST/ASA Member \$190
- All others \$290

☐ **RUSH:** Please rush my application. I've enclosed the non-refundable \$50 fee **in addition** to examination fees. Rush processing will process your application within 3-5 business days. Excludes mailing time to the candidate. **NOTE:** Rush is not available for those testing WBT.

Total enclosed: ☐ \$190 (AST/ASA member) ☐ \$240 (Member with rush) ☐ \$290 (Non-member) ☐ \$340 (Non-member with rush)



## 2021 CST Examination Application... Continued

NBSTSA

### Forms of Payment:

☐ Money Order ☐ Personal Check ☐ Institutional Check ☐ Visa ☐ MasterCard ☐ Discover

\*Please make checks payable to "NBSTSA".

Billing Address (only if different from applicant info) City State Zip Code

Card Number Security Code Expiration Date \$ Amount Charged

Signature (authorizes payment) Name (as it appears on card)

### IMPORTANT: All applicants must sign the following statement:

*I do hereby acknowledge that all the information submitted in connection with my application to the certification program is true and correct to the best of my knowledge. I understand that falsified information on this application is grounds for denial of acceptance for examination or certification revocation, and may bar me from future certifications or renewals. I further acknowledge and agree that the NBSTSA may release my examination scores and credentialed status to agencies such as those which regulate the practice of surgical technology, current/potential employers, surgical education programs attended, NBSTSA recognized programmatic accreditation agencies and NBSTSA contracted vendors involved in the process of certification. I understand that NBSTSA CST/CSFA certificants may also have their names and credentials published in various NBSTSA publications from time to time such as when the NBSTSA is congratulating new certificants, etc.*

Printed Name of Applicant Signature of Applicant Date

### IMPORTANT: All On-Campus Examination (WBT) and pre-grad applicants must sign the following statement:

*I do hereby acknowledge as an WBT candidate that proof of graduation MUST be submitted to the NBSTSA within 60 days of my actual examination date in order for my examination results to be release. Failure to produce graduation proof will result in invalidation of examination results and forfeiture of all examination fees.*

Printed Name of Applicant Signature of Applicant Date

**Would you like to receive other communication from the NBSTSA?** ☐ Yes ☐ No  
(i.e. Certification renewal reminders, newsletter, etc.)

Once approved, NBSTSA provides candidates with an Authorization To Test number (ATT), and both the phone number and web address to contact the testing agency to schedule the examination.

**Retesting:** Surgical Technologist candidates who are unsuccessful in passing the examination may resubmit an application immediately; however, they are limited to taking three (3) examinations in one (1) calendar year. Candidates are required to resubmit an application and payment each time.

**Refund:** The following fees are NON-REFUNDABLE: Application processing fee (\$60.00), RUSH processing fee (\$50.00). Refunds will not be issued once application form is processed and an Authorization To Test letter (ATT) issued.

### RETURN THIS FORM, ALL NECESSARY DOCUMENTATION AND ENTIRE FEE TO:

The National Board of Surgical Technology and Surgical Assisting  
3 West Dry Creek Circle  
Littleton, CO 80120

All NBSTSA forms are available and can be submitted online at [www.nbstsa.org](http://www.nbstsa.org).

TAPE COLOR PHOTO HERE

2x2 color passport photo only.

# 2021 Certified Surgical Technologist (CST) Renewal Application



Please read entire application and complete fully. Allow 4 - 6 weeks for processing. If you have any questions, please contact the NBSTSA Certification Department directly at (800) 707-0057 or email questions to [mail@nbstsa.org](mailto:mail@nbstsa.org).

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Current Last Name	First ( <b>Legal name</b> )	Middle
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Other Names You Have Used (e.g., maiden name, etc. Please include copy of legal documentation to change name on file.)

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Mailing Address (include apartment # if applicable)	City	State	Zip Code
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Home Phone Number	Work Phone Number	Cell Number
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Social Security Number	Certification Number
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Primary Email

**Are you a member of AST/ASA?** ☐ No ☐ Yes, member number \_\_\_\_\_

**PLEASE CHECK THE BOX THAT APPLIES TO YOU:**

- ☐ **Recertify by credits.** All continuing education credits must be earned prior to expiration date (for number of credits needed go to [nbstsa.org](http://nbstsa.org)). Credits must be submitted to AST for processing. Call (800) 637-7433 or visit [ast.org](http://ast.org) for more information.
- ☐ **Recertify by examination.** I choose to demonstrate competency through examination.

**SPECIAL ACCOMMODATIONS:**

Are you requesting special testing accommodations due to physical impairment(s) or disability? ☐ Yes ☐ No

If you are requesting special accommodations, you must include a comprehensive report from a qualified physician describing your disability and/or any other documentation which will assist in an informed decision by the NBSTSA regarding your request for accommodations as described in the Guidelines For Documenting a Request for Test Accommodations.

**FEES:**

- Renewal fee \$25
- Renewal by examination: \$399 (AST/ASA member) or \$499 (non member)

**LATE FEES:**

Late renewal period extended to 180 days and late fee \$0 through 6/30/2021 due to COVID-19.

**IMPORTANT:** Late renewals - all continuing education credits must be earned during, not after certification expiration. Some certification cycles have been extended due to COVID-19. Please see [nbstsa.org/nbstsa-response-covid-19-coronavirus](http://nbstsa.org/nbstsa-response-covid-19-coronavirus) for details.

\*Only applies to candidates renewing by credits.

☐ **RUSH:** Please rush my application. I've enclosed the non-refundable \$50 fee **in addition** to renewal fees. Rush processing will process your application within 3-5 business days. Excludes mailing time to the candidate.

## 2021 CST Renewal Application... Continued

NBSTSA

### Forms of Payment:

☐ Money Order ☐ Personal Check ☐ Institutional Check ☐ Visa ☐ MasterCard ☐ Discover

\*Please make checks payable to "NBSTSA".

Billing Address (only if different from applicant info) City State Zip Code

Card Number Security Code Expiration Date \$ Amount Charged

Signature (authorizes payment) Name (as it appears on card)

### IMPORTANT: All applicants must sign the following statement:

*I do hereby acknowledge that all the information submitted in connection with my application to the certification program is true and correct to the best of my knowledge. I understand that falsified information on this application is grounds for denial of acceptance for examination or certification revocation, and may bar me from future certifications or renewals. I further acknowledge and agree that the NBSTSA may release my examination scores and credentialed status to agencies such as those which regulate the practice of surgical technology, current/potential employers, surgical education programs attended, NBSTSA recognized programmatic accreditation agencies and NBSTSA contracted vendors involved in the process of certification. I understand that NBSTSA CST/CSFA certificants may also have their names and credentials published in various NBSTSA publications from time to time such as when the NBSTSA is congratulating new certificants, etc.*

Printed Name of Applicant Signature of Applicant Date

**Would you like to receive other communication from the NBSTSA?** ☐ Yes ☐ No

(i.e. Certification renewal reminders, newsletter, etc.)

**Refund:** The following fees are NON-REFUNDABLE: application processing fees (Examinations \$60.00), RUSH processing fee (\$50.00) and/or examination fee after the approval of the application and issuance of an Authorization To Test letter (ATT).

### RETURN THIS FORM, ALL NECESSARY DOCUMENTATION AND ENTIRE FEE TO:

The National Board of Surgical Technology and Surgical Assisting  
3 West Dry Creek Circle  
Littleton, CO 80120

All NBSTSA forms are available and can be submitted online at [www.nbstsa.org](http://www.nbstsa.org).

TAPE COLOR PHOTO HERE

2x2 color passport photo only.

# Request for Special Examination Accommodations



THE NATIONAL BOARD  
OF SURGICAL TECHNOLOGY  
AND SURGICAL ASSISTING

Review the **Guidelines for Documenting a request for Examination Accommodations** on the pages following this application.

## INSTRUCTIONS:

To request examination accommodations for a disability covered by the Americans with Disabilities Act as amended (ADAAA), Read the Documentation Guidelines carefully. Share them with the professional who will be preparing your supporting documentation.

☐ **Complete this form in full. Read and sign the acknowledgement.**

☐ Include supporting documentation as described in the Guidelines for Documenting a Request for Test Accommodations (i.e., school records, records of prior testing accommodations, medical records, lab reports, etc.) as necessary to support your request. **INCOMPLETE APPLICATIONS/DOCUMENTATION WILL DELAY PROCESSING OF YOUR REQUEST.**

☐ Be sure that all information you submit is typed or printed. Material from evaluators must be on official letterhead.

☐ All documentation must be in English. You are responsible for providing certified English translations of foreign-language documentation.

☐ Include documentation of your functional impairment in daily activities **beyond test-taking**.

☐ Send your completed NBSTSA Test Accommodation Request form and supporting documentation **WITH** your examination application and fees to:

The National Board of Surgical Technology and Surgical Assisting, 3 West Dry Creek Circle, Littleton, CO 80120.

## BIOGRAPHICAL INFORMATION:

Current Last Name	First ( <b>Legal name</b> )	Middle
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Other Names You Have Used (e.g., maiden name, etc. Please include copy of legal documentation to change name on file.)

Mailing Address (include apartment # if applicable)	City	State	Zip Code
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Home Phone Number	Work Phone Number	Cell Number
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Primary Email

## NATURE OF DISABILITY:

Indicate the nature of your disability, the year it was first professionally diagnosed, and the date of your most recent evaluation. (Select all that apply):

☐ Vision

☐ Physical

☐ ADHD

☐ Learning

☐ Psychological

☐ Hearing

☐ Other, specify: \_\_\_\_\_

First Diagnosed

Most Recent Evaluation



**PREVIOUS ACCOMMODATIONS:**

Have you previously received test accommodations? ☐ Yes ☐ No

If yes, provide name of examination, test date and accommodations received:

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Have you previously received educational accommodations? ☐ Yes ☐ No

If yes, provide name of school, applicable dates and accommodations received:

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Have you previously received workplace accommodations? ☐ Yes ☐ No

If yes, provide name of employer, applicable dates and accommodations received:

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**REQUESTED ACCOMMODATIONS:**

(Select all that apply):

☐ Extended time

☐ Reader

☐ Separate room (if available)

☐ Other equipment or accommodation, specify: \_\_\_\_\_

**PERSONAL STATEMENT (REQUIRED):**

Please describe how your disability impacts your *daily* life. Attach additional pages, if necessary.

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**IMPORTANT: All applicants must acknowledge the following statement:**

By signing below, I attest that I have reviewed the Guidelines for Documenting Examination Accommodations and that the information I have provided in this application is accurate, true and correct to the best of my knowledge. I agree to and authorize the release of this information to the NBSTSA and their contracted consulting firm for use in determining my eligibility for the requested testing accommodations.

I understand the NBSTSA reserves the right to verify any and all information contained in my application. Therefore, I understand and agree that my failure to provide accurate, true and correct information shall constitute grounds for rejection of my request for testing accommodations.

\_\_\_\_\_  
Signature of Candidate

\_\_\_\_\_  
Date

The NBSTSA will notify you of a decision in writing. For confidentiality purposes, information regarding testing accommodation decisions will not be discussed by telephone or via email.

# Guidelines for Documenting a Request for Test Accommodations

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The following guidelines will assist applicants in documenting a need for accommodations based on an impairment that substantially limits one or more major life activities.

## GENERAL GUIDELINES

To request accommodations, please submit the following:

- A completed request for special exam.
- A detailed, comprehensive written report from a qualified health professional describing your disability and its severity and explaining the need for the requested accommodation(s).

## THE REPORT SHOULD:

State a specific diagnosis of the disability using professionally recognized nomenclature, e.g., American Psychiatric Association Diagnostic and Statistical Manual (DSM-IV-R) or International Classification of Diseases (ICD-10).

**Be current.** Because the provision of accommodations is based on the current impact of the disability on the testing activity, **the evaluation should have been conducted no more than three years prior to the request for accommodations.**

Clearly describe the specific diagnostic criteria and name the diagnostic tests used, including date(s) of evaluation; list specific test results; and provide a detailed interpretation of the test results in support of the diagnosis. Be sure to include all relevant educational, developmental and medical history.

Give a detailed description of the applicant's current functional limitations due to the diagnosed disability and an explanation of how the diagnostic test results relate to the identified functional limitations. Fully describe how the disability impairs current physical, perceptual and/or cognitive functioning.

Recommend specific accommodations including assistive devices. Provide a detailed explanation of why these accommodations or devices are needed and how they will reduce the impact of the identified functional limitations on the specific examination for which they are requested.

Report any accommodations the applicant currently uses in daily functioning, especially professional and work-related activities and any past accommodations the applicant received on examinations because of the disability.

Provide contact information and credentials of the professional evaluator that qualify him/her to make the diagnosis, including information about professional license or certification and specialization in the area of the diagnosis. The dated report must be written on the professional evaluator's letterhead and clearly indicate the name, address, telephone number and qualifications of the professional. The evaluator should present evidence of comprehensive training and direct experience in the diagnosis and treatment of adults in the specific area of disability.

The documentation should include any record of prior accommodation or auxiliary aids, including any information about specific conditions under which the accommodations were used and whether or not they were effective. However, a prior history of accommodation, without demonstration of a current need, does not in and of itself warrant the provision of a similar accommodation.

*If no prior accommodations have been provided, the qualified professional expert should include a detailed explanation as to why no accommodations were given in the past and why accommodations are needed now.*

## ADDITIONAL INFORMATION FOR LEARNING AND COGNITIVE DISORDERS

The evaluation must be conducted by a qualified professional with comprehensive training in the field of learning disorders.

Testing conducted as part of the comprehensive psychoeducational assessment should be no more than three (3) years old. (See General Guidelines). A developmental disorder such as a learning disability originates in childhood and therefore, school history and other information which demonstrate a history of impaired functioning should be included. Wherever possible, actual school records, psychological reports and other objective historical information should be provided.

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## DOCUMENTATION MUST BE COMPREHENSIVE

The report should include a comprehensive history-taking with relevant background information and appropriate test data to support the diagnosis, including the following:

- A description of the presenting problem(s);
- A developmental history;
- Relevant academic history including results of prior standardized testing, school reports and notable trends in academic performance;
- Relevant family history, including primary language of the home and current level of fluency in English;
- Relevant medical and employment history; a differential diagnosis, exploring and ruling out possible alternative or co-existing mood, behavioral, neurological and/or personality disorders which may impact the individual's learning;
- A comprehensive battery of age-appropriate, normed diagnostic tests;
- A diagnosis based on a convergence of all test data, history and level of current functioning. It is not acceptable to base a diagnosis on only one or two subtests;
- Objective evidence of a substantial limitation in learning.

Problems such as test anxiety, English as a second language (in and of itself), slow reading without an identified underlying cognitive deficit or failure to achieve a desired outcome on a test are not learning disabilities and are not covered under the Americans with Disabilities Act.

## ADDITIONAL INFORMATION FOR ATTENTION DEFICIT/HYPERACTIVITY DISORDER

The evaluation must consist of more than patient observations and self-report. Information from third party sources is critical in the diagnosis of adult ADHD. The evaluation and report should include, but not necessarily be limited to, the following:

- History of presenting attention symptoms, including evidence of ongoing impulsive/hyperactive or inattentive behavior that has significantly impaired functioning over time;
- Developmental history;

- Family history for presence of ADHD and other educational, learning, physical or psychological difficulties deemed relevant by the examiner;
- Relevant medical and medication history, including the absence of a medical basis for the symptoms being evaluated;
- Relevant psychosocial history and any relevant interventions;
- A thorough academic history of elementary, secondary and postsecondary education;
- Evidence of impairment in several life settings (home, school, work, etc.) and evidence that the disorder significantly restricts one or more major life activities;
- Relevant employment history;
- Description of current functional limitations that are presumably a direct result of the described problems with attention;
- A discussion of the differential diagnosis, including alternative or co-existing mood, behavioral, neurological and/or personality disorders that may confound the diagnosis of ADHD.

Test scores or subtest scores from a neuropsychological or psychoeducational assessment may be helpful in determining the individual's pattern of strengths or weaknesses and in determining whether there are patterns supportive of attention problems. However, test scores alone cannot be used as the sole basis for the diagnostic decision.

The report must include a specific diagnosis of ADHD based on the DSM-IV-R diagnostic criteria. Individuals who report problems with organization, test anxiety, memory and concentration only on a situational basis do not fit the diagnostic criteria for ADHD. Given that many individuals benefit from prescribed medications and therapies, a positive response to medication by itself is not supportive of a diagnosis, nor does the use of medication in and of itself either support or negate the need for accommodation.

Because of the challenge of distinguishing ADHD from normal developmental patterns and behaviors of adults, including procrastination, disorganization, distractibility, restlessness, boredom, academic underachievement or test failure, low self-esteem and chronic tardiness or in attendance, a multifaceted evaluation must address the intensity and frequency of the symptoms and whether these behaviors constitute impairment in a major life activity.



**NBSTSA.ORG**

**800 707 0057**

**FACEBOOK.COM/THENBSTSA**

3 West Dry Creek Circle  
Littleton Colorado 80120