National Registry Examination for Nerve Conduction Studies

Candidate Handbook 2019

<table>
<thead>
<tr>
<th>APPLICATION DEADLINE*</th>
<th>TESTING BEGINS</th>
<th>TESTING ENDS</th>
<th>FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 21, 2018</td>
<td>January 19, 2019</td>
<td>February 2, 2019</td>
<td>US $625.00</td>
</tr>
<tr>
<td>April 15, 2019</td>
<td>May 18, 2019</td>
<td>June 1, 2019</td>
<td>US $625.00</td>
</tr>
<tr>
<td>July 22, 2019</td>
<td>August 17, 2019</td>
<td>August 31, 2019</td>
<td>US $625.00</td>
</tr>
</tbody>
</table>

*Late applications will NOT be accepted.

Administered by:

PROFESSIONAL TESTING CORPORATION

1350 Broadway, Suite 800 | New York, NY 10018
ptcny@ptcny.com | (212) 356-0660 | www.ptcny.com
# TABLE OF CONTENTS

- REGISTRATION .................................................................................................................. 3
- OBJECTIVES OF AAET ...................................................................................................... 3
- NON-DISCRIMINATION STATEMENT ................................................................................ 3
- ATTAINMENT OF REGISTRATION .................................................................................. 3
- REVOCATION OF REGISTRATION ................................................................................... 3
- ELIGIBILITY REQUIREMENTS ........................................................................................... 4
- REREGERISTRATION ......................................................................................................... 4
- APPLICATION PROCEDURE ................................................................................................ 5
- EXAMINATION APPLICATION FEES ................................................................................ 5
- REFUNDS/TRANSFER FEES .............................................................................................. 5
- EXAMINATION ADMINISTRATION .................................................................................... 6
- INTERNATIONAL TESTING ............................................................................................... 6
- SPECIAL NEEDS ................................................................................................................ 6
- SCHEDULING YOUR EXAMINATION APPOINTMENT ....................................................... 7
- CHANGING YOUR EXAMINATION APPOINTMENT ............................................................ 7
- RULES FOR THE EXAMINATION .................................................................................... 8
- SCORING PROCEDURE ..................................................................................................... 9
- REPORTING OF RESULTS .................................................................................................. 9
- CONFIDENTIALITY ............................................................................................................. 9
- HANDSCORE REQUEST .................................................................................................... 9
- REEXAMINATION .............................................................................................................. 9
- CONTENT OF THE EXAMINATION .................................................................................... 10
- EXAMINATION CONTENT OUTLINE ................................................................................. 11
- SAMPLE EXAMINATION QUESTIONS ............................................................................... 15
- CODE OF ETHICS ............................................................................................................... 17
- REFERENCES ....................................................................................................................... 18
REGISTRATION

The American Association of Electrodiagnostic Technologists (AAET) supports the concept of voluntary registration by examination for health care professionals in nerve conduction studies. Registration focuses specifically on the individual and is an indication of current knowledge in electrodiagnostic nerve conduction studies technology.

OBJECTIVES OF AAET

AAET aims to establish standards for registration of electrodiagnostic technologists by:

- Providing a standard of knowledge in nerve conduction studies required for registration.
- Establishing and measuring the level of knowledge required for registration in nerve conduction studies by means of an objective written examination.
- Recognizing formally those individuals who meet the eligibility requirements of AAET and pass the National Registry Examination for Nerve Conduction Studies.

NON-DISCRIMINATION STATEMENT

The American Association of Electrodiagnostic Technologists (AAET) does not discriminate on the basis of age, sex, race, religion, national origin, marital status or handicapped condition.

ATTAINMENT OF REGISTRATION

Candidates who pass the Registry Examination for Nerve Conduction Studies will be authorized to use the designation R.NCS.T.

REVOCATION OF REGISTRATION

Certification will be revoked for any of the following reasons:

- Falsification of an Application.
- Misrepresentation of certification status.
- Failure to complete and submit the required continuing education for recertification.

AAET provides an appeal mechanism for any action taken in this regard. It is the responsibility of the individual to initiate this process.
ELIGIBILITY REQUIREMENTS

In addition to the eligibility requirements listed below it is recommended that the candidate:

- Has received education through an Accredited Neurodiagnostic Technology program and/or have at least six months experience involving training in both practical applications and theory directly related to Nerve Conduction Studies (NCS).
- Download and study from the AAET Handbook for Candidates.

Candidates are required to provide the following supporting documentation with submission of the AAET National Registry Examination for Nerve Conduction Studies. The application will allow for uploading of the necessary files:

1. AAET Attestation Statement signed by the supervising physician attesting that the technologist is not performing invasive (needle) examinations that the physician is responsible for interpreting data.
   OR
2. A copy of the certificate for the superseding active board certification which allows EMG and interpretation as stated by your state and regional guidelines.

Along with:

**Pathway 1:**

One year experience and proof of performance of 100 patient encounters OR one year of experience and 30 AAET CEUs. For purposes of AAET registration, a patient encounter is defined at an individual patient visit. Use the AAET Patient Encounter form to submit documentation of patients.

**Pathway 2:**

NDT CAAHEP graduate and proof of performance if 100 patient encounters OR NDT CAAHEP graduate and 30 AAET CEUs.

**Additional required documentation for all pathways:**

- A copy of certification card for Basic Life Support (BLS) for the Healthcare Provider under the American Heart Association.
- Complete and file the application for AAET National Registry Examination for Nerve Conduction Studies.
- Pay $625 by credit card

A candidate may sit for the AAET R.NCS.T. examination after receiving confirmation of supporting documentation and payment.

RECERTIFICATION

Each R.NCS. T. must either retake and pass the written examination or submit documentation of continuing education totaling a minimum of 30 hours directly related to NCS or neuromuscular diseases over the five (5) year period. Technologists must keep records with proof of attendance. When a technologist fails to renew his/her credential, the credential expires and the technologist is unable to legally claim certification. Recertification policies can be found by navigating to the recertification tab at www.aaet.info or e-mailing aaet-cerc@aaet.info.
APPLICATION PROCEDURE

Candidates must complete the examination application in full, using your name exactly as it appears on your current government-issued photo ID such as a driver’s license or a passport. The completed application, with all documentation, can be submitted and paid for online at https://secure.ptcny.com/apply/.

Read and follow the directions on the application and in this handbook. All applications must be completed online. The application can be found on Professional Testing Corporation’s website https://secure.ptcny.com/apply/.

Application Checklist

Candidates must check that the following documents are uploaded with their application:

✓ Patient Encounter Documentation Form

✓ Attestation completed and signed by supervising physician or a copy of the certificate for the superseding active board certification which allows EMG and interpretation as stated by state and regional guidelines

✓ CAAHEP accredited neurodiagnostics program diploma/END program certificate (if applicable)

✓ AAET CEUs (if applicable)

✓ Copy of current AHA BLS certification card

EXAMINATION APPLICATION FEES

<table>
<thead>
<tr>
<th>FEE TYPE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAET National Registry Examination for Nerve Conduction Studies Application Fee</td>
<td>US $625.00</td>
</tr>
<tr>
<td>International Testing Center Fee (if testing outside of the US or Canada)</td>
<td>US $100.00</td>
</tr>
<tr>
<td>Rescheduling Fee (see “Refunds/Transfer Fees” for more info)</td>
<td>US $185.00</td>
</tr>
</tbody>
</table>

REFUNDS/TRANSFER FEES

There will be NO refund of fees. Please be advised: PSI does not have the authority to grant transfers or refunds. All requests must be made through PTC. Candidates unable to take the examination during their scheduled testing period may request a ONE-TIME TRANSFER to the immediate next testing period. There is a transfer fee of $185. A candidate may only transfer once, so please plan carefully.

Contact PTC for further instruction—www.ptcny.com/contact
EXAMINATION ADMINISTRATION

The Registry Examination for Nerve Conduction Studies is administered during an established two-week testing period on a daily basis, Monday through Saturday, excluding holidays, at computer-based testing facilities managed by PSI. PSI has several hundred testing sites in the United States, as well as Canada. Scheduling is done on a first-come, first-serve basis. Hours and days of availability vary at different centers.

To find a testing center near you, visit www.ptcny.com/cbt/sites.htm or call PSI at (800) 733-9267.

You will not be able to schedule your examination appointment until you have received a Scheduling Authorization from PTC.

ONLINE SOFTWARE TUTORIAL

The Testing Software Tutorial can give you an idea about the features of the testing software and can be viewed online at: www.ptcny.com/cbt/demo.htm.

INTERNATIONAL TESTING

Candidates outside of the United States and Canada must complete and submit the Request for Special Testing Center Form: www.ptcny.com/PDF/PTC_SpecialTestCenterRequestForm.pdf

This form must be uploaded to your application no later than 8 weeks prior to the start of the chosen testing period. PTC will arrange a computer based examination at an international test center for you.

Please note that all examinations are administered in English, unless otherwise specified.

<table>
<thead>
<tr>
<th></th>
<th>FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>International/Special Testing Center</td>
<td>US $300.00</td>
</tr>
</tbody>
</table>

SPECIAL NEEDS

AAET and PTC supports the intent of and complies with the Americans with Disabilities Act (ADA). PTC will take steps reasonably necessary to make certification accessible to persons with disabilities covered by the ADA. Special testing arrangements may be made upon receipt of the Application, examination fee, and a completed and signed Request for Special Needs Accommodations Form, available from www.ptcny.com/PDF/PTC_SpecialAccommodationRequestForm.pdf or by calling PTC at (212) 356-0660.

This form must be uploaded with the online application no later than 8 weeks prior to the start of the chosen testing period. Please use this form if you need to bring a service dog, medicine, or food/beverages needed for a medical condition with you to the testing center.

Only those requests made and received on the official Request for Special Needs Accommodations Form will be reviewed. Letters from doctors and other healthcare professionals must be accompanied by the official form and will not be accepted without the form.

Information supplied on the Request for Special Accommodations form will only be used to determine the need for special accommodations and will be kept confidential.
SCHEDULING YOUR EXAMINATION APPOINTMENT

Once your application has been received and processed and your eligibility verified, you will be sent a notice from PTC confirming receipt of payment and acceptance of application. Within 6 weeks prior to the first day of the testing period, you will be sent a Scheduling Authorization via email from notices@ptcny.com. Please ensure you enter your correct email address on the application and add the ‘ptcny.com’ domain to your email safe list. If you do not receive a Scheduling Authorization at least 3 weeks before the beginning of the testing period, contact the Professional Testing Corporation at (212) 356-0660.

The Scheduling Authorization will indicate how to schedule your examination appointment, as well as the dates during which testing is available. Appointment times are first-come, first-serve, so schedule your appointment as soon as you receive your Scheduling Authorization in order to maximize your chance of testing at your preferred location and on your preferred date.

After you make your test appointment, PSI will send you a confirmation email with the date, time and location of your exam. Please check this confirmation carefully for the correct date, time, and location. Contact PSI at (833) 207-1288 if you do not receive this email confirmation or if there is a mistake with your appointment.

✓ It is your responsibility as the candidate to call PSI to schedule the examination appointment.
✓ It is highly recommended that you become familiar with the location of the testing site.
✓ Late arrival may prevent you from testing. Please plan for weather, traffic, parking, and any security requirements that are specific to the testing location.

IMPORTANT!

You MUST present your current driver’s license, passport, or U.S. military ID at the test center. Expired, temporary, or paper driver’s licenses will NOT be accepted.

The name on your Scheduling Authorization MUST exactly match the name on your photo ID.

Fees will not be refunded for exams missed because of invalid ID.

Call PTC at 212-356-0660 if you need a duplicate Scheduling Authorization or if your name is not correct.

CHANGING YOUR EXAMINATION APPOINTMENT

If you need to cancel your examination appointment or reschedule to a different date within the two-week testing period, you must contact PSI at (833) 207-1288 no later than 12:00 noon, Eastern Time, of the second business day PRIOR to your scheduled appointment. PSI does not have the authority to authorize refunds or transfers to another testing period.

If you fail to arrive on time for your appointment or cancel without the required notice, you will forfeit your testing fee.
RULES FOR THE EXAMINATION

Please read the information below carefully. You are responsible for adhering to the Examination Rules while at the test center.

⇒ You must present your current, government issued photo ID (such as a driver’s license or passport) at the time of your scheduled appointment. Candidates without valid ID will NOT be permitted to test. Temporary or paper copies of your ID will not be accepted.

⇒ No electronic devices that can be used to record, transmit, receive, or play back audio, photographic, text, or video content; including but not limited to, cell phones, laptop computers, tablets, Bluetooth devices, wearable technology (such as smart watches), MP3 players (such as iPods), pagers, cameras, and voice recorders, are permitted to be used and cannot be taken in the examination room. The test center may have lockers or you may be asked to lock your personal items in your car. For this reason, we suggest that you do not bring personal items with you, other than what is specifically needed for your examination.

⇒ Simple, nonprogrammable calculators are permitted with the exception of the calculators as a part of cellphones, etc. A calculator is also available on screen if needed.

⇒ No papers, books, or reference materials may be taken into or removed from the testing room.

⇒ No questions concerning content of the examination may be asked during the examination session. The candidate should read carefully the directions that are provided on screen at the beginning of the examination session.

⇒ Candidates are prohibited from leaving the testing room while their examination is in session, with the sole exception of going to the restroom.

⇒ Bulky clothing, such as sweatshirts (hoodies), jackets, coats, and hats (except hats worn for religious reasons), may not be worn while taking the examination.

⇒ No watches of any kind or “Fitbit”-type devices can be worn during the examination. It is suggested that these items are not brought to the test center.

⇒ Candidates cannot bring food/beverages with them, unless pre-authorized by PTC. Candidates who require food/beverages during their examinations for medical conditions need to submit this request on the Request for Special Accommodations form. See “Special Needs” on page 6 for details.

Contact PTC at (212) 356-0660 or ptcny@ptcny.com with any questions about the Examination Rules.

Violation of any of the rules listed above may lead to forfeiture of fees, dismissal from testing room, and cancellation of your test scores.
SCORING PROCEDURE

Prior to administration of the examination, representatives from the AAET Examination Committee and PTC meet to review all test items for accuracy. At this meeting, the passing score for the examination is set using recognized psychometric methods. The passing score represents the number of test items determined necessary for the candidate to answer correctly to be considered as having minimal basic knowledge of nerve conduction studies.

In order to protect the security and integrity of the certification examination, neither AAET nor PTC will release examination items, candidate responses, or keys to any candidate or agency.

REPORTING OF RESULTS

Candidates will be notified in writing by PTC within 4 weeks of the close of the testing period whether they have passed or failed the examination. Scores on the major areas of the examination and on the total examination will be reported.

Successful candidates will also receive certificates from the AAET.

CONFIDENTIALITY

AAET will release the individual test scores ONLY to the individual candidate. Any questions concerning test results should be referred to AAET or PTC.

HANDSCORE REQUEST

Candidates may request a handscoring of their examination once results are received. A handscore may be performed to verify the accuracy of the computerized grading of the examination, as well as confirming that any questions marked as incorrect were not the correct answer.

All requests for a handscore of the examination should be submitted directly to PTC with the required fee. The handscore fee is not refundable regardless of the results of the handscoring.

The Handscore Report Request Form is available on the PTC site: www.ptcny.com/PDF/PTC_Handscore_Request_Form.pdf

REEXAMINATION

The National Registry Examination for Nerve Conduction Studies may be taken as often as desired upon filing of a new application and fee. There is no limit to the number of times the examination may be repeated.
CONTENT OF THE EXAMINATION

• The AAET National Registry Examination for Nerve Conduction Studies is a computer-based examination composed of a maximum of 250 multiple-choice, objective questions with a total testing time of four (4) hours.

• The content for the examination is described in the Content Outline on the next page.

• The questions for the examination are obtained from individuals with expertise in electrodiagnostic technology and are reviewed for construction, accuracy, and appropriateness by the AAET.

• AAET, with the advice and assistance of the Professional Testing Corporation, prepares the examination.

The AAET National Registry Examination for Nerve Conduction Studies will be weighted in approximately the following manner:

<table>
<thead>
<tr>
<th>CONTENT AREA</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. PHYSIOLOGY AND ANATOMY</td>
<td>20%</td>
</tr>
<tr>
<td>PRINCIPLES OF NCS</td>
<td></td>
</tr>
<tr>
<td>II. BASIC ELECTRONICS, INSTRUMENTATION, AND STIMULATION</td>
<td>5%</td>
</tr>
<tr>
<td>III. NERVE CONDUCTION VELOCITY CONCEPTS AND WALLERIAN DEGENERATION</td>
<td>10%</td>
</tr>
<tr>
<td>STIMULATION &amp; RECORDING PRINCIPLES</td>
<td></td>
</tr>
<tr>
<td>IV. LATE RESPONSES AND BLINK REFLEX</td>
<td>5%</td>
</tr>
<tr>
<td>V. NEUROMUSCULAR JUNCTION TRANSMISSION AND REPETITIVE NERVE STIMULATION</td>
<td>13%</td>
</tr>
<tr>
<td>VI. PERIPHERAL NERVES, CASE STUDIES &amp; ELECTRODE PLACEMENT/PRACTICAL APPLICA-</td>
<td>35%</td>
</tr>
<tr>
<td>TION</td>
<td></td>
</tr>
<tr>
<td>VII. TECHNICAL CONSIDERATIONS, ANOMALIES AND SAFETY</td>
<td>12%</td>
</tr>
</tbody>
</table>
EXAMINATION CONTENT OUTLINE

I. PHYSIOLOGY AND ANATOMY
   A. Basic Physiology
      1. Basics
      2. Physiologic Principles of Resting Potentials and Action Potentials
         a. Resting Potentials
            1. Cell Membrane Physiology
            2. All or None Response
            3. Depolarization
            4. Repolarization
            5. Hyperpolarization
            6. Refractory Period
         b. Propagation of Action Potentials
            1. Saltatory Conduction
               a. Schwann Cells
               b. Node of Ranvier—Internodal Length
               c. Sodium Potassium Pump
            2. Myelinated Axons—Degree of Myelination
            3. Unmyelinated Axons
   B. Nerve Physiology
      1. Peripheral Nerve Anatomy
         a. Fascicles
         b. Connective Tissues (epineurium, perineurium, endoneurium)
         c. Fiber Types
      2. Cell Body Location of Motor and Sensory Axons
         a. Dorsal Root Ganglion
         b. Anterior Horn Cell
   C. Muscle Physiology
      1. Structure
         a. Myofibril
         b. Sarcomere
         c. H, A, I, and Z Bands
      2. Mechanism of Contraction
         a. Myosin Filaments
         b. Actin Filaments
         c. Calcium
         d. Sarcoplasmic Reticulum—T Tubules
   D. Plexus
      1. Spinal Roots
      2. Dorsal and Ventral Roots/Rami

II. BASIC ELECTRONICS, INSTRUMENTATION, & STIMULATION
   A. Basic Electronics
      1. Ohm’s Law
      2. Circuit Theory—AC&DC Current & Resistors
   B. Instrumentation
      1. Averaging
      2. Filtering Effects
      3. Phase Cancellation
      4. Amplifiers (CMRR—Input Impedance—Differential Amplifier)
   C. Equipment Parameters
      1. Filters
      2. Sweep Speed/Timebase
      3. Gain/Sensitivity
      4. Cursor Placement
   D. Stimulation
      1. Stimulators—Constant Current/Voltage
      2. Parameters
         a. Intensity
         b. Duration
         c. Polarity
            1. Cathode
            2. Anode
      3. Concepts and Pitfalls
         a. Anodal Black
         b. Volume Conduction
         c. Artifact
         d. Supramaximal Stimulation

III. NERVE CONDUCTION VELOCITY CONCEPTS AND WALLERIAN DEGENERATION
   A. Nerve Conduction
      1. Anatomy
         a. Pre and Post Ganglionic Lesions
            1. Localization
            2. Effects

(Continued on next page.)
b. Nerve Conduction Studies
   1. Focal Lesions
   2. Conduction Block
   3. Diffuse Processes
   4. Multifocal Disorders
   5. Demyelination
   6. Axonal Loss
   7. Temporal Dispersion
2. Waveform Evaluation
   a. Nerve Conduction Parameters
      1. Latency
      2. Amplitude
      3. Conduction Velocity
      4. Area
      5. Duration
      6. Rise Time
   b. Normal Values
3. Pediatric Nerve Conduction
B. Wallerian Degeneration
   1. Neurapraxia
   2. Axonotmesis
   3. Neurotmesis

STIMULATION & RECORDING PRINCIPLES

IV. LATE RESPONSES AND BLINK REFLEX
A. F Waves
   1. Origin
   2. Technical and Clinical Applications
   3. Relationship to M wave and Habituation
B. H Reflexes
   1. Origin
   2. Technical and Clinical Applications
   3. Relationship to M wave and Habituation
C. A Waves
D. Blink Reflex
   1. Origin
   2. Technical and Clinical Applications
   3. R1, R2, Contralateral R2

V. NEUROMUSCULAR JUNCTION TRANSMISSION
   AND REPETITIVE NERVE STIMULATIONS STUDIES
   A. Neuromuscular Junction
      1. Physiology/Anatomy
      2. Presynaptic Disorders
         a. Lambert-Eaton Syndrome
         b. Botulism
      3. Postsynaptic Disorders—Myasthenia Gravis
   B. Performing Repetitive Nerve Stimulation
      Studies
      1. Technical Setup
         a. Electrode Stabilization
         b. Stimulation Parameters
      2. Post Activation Evaluation
         a. Facilitation
         b. Exhaustion
         c. Pseudofacilitation

VI. PERIPHERAL NERVES, CASE STUDIES, &
   ELECTRODE PLACEMENT/PRACTICAL APPLICATION
   A. Neuroanatomy
      1. Upper Extremity
         a. Median Nerve
            1. Median Motor Nerve
            2. Median Sensory Nerve
            3. Anterior Interosseous
            4. Palmar Cutaneous Branch
         b. Ulnar Nerve
            1. Ulnar Motor Nerve
            2. Ulnar Sensory Nerve
            3. Dorsal Ulnar Cutaneous
            4. Medial Antebrachial Cutaneous
            5. Palmar Cutaneous Branch
         c. Radial Nerve
            1. Radial Motor Nerve
            2. Posterior Interosseous Nerve
            3. Superficial Radial Nerve

(Continued on next page.)
2. Lower Extremity
   a. Saphenous Nerve
   b. Femoral Nerve
   c. Lateral Femoral Cutaneous
   d. Sciatic Nerve
       1. Common Peroneal (Fibular)
          a. Deep
          b. Superficial
   2. Tibial Nerve
      a. Medial Plantar Nerve
      b. Lateral Plantar Nerve
   3. Sural Nerve
3. Cranial Nerves I—XII
   a. Innervations
   b. Cutaneous Sensation
   c. Facial Nerve
   d. Trigeminal Nerve
   e. Accessory Nerve
4. Other Nerves
   a. Phrenic
   b. Suprascapular
   c. Long Thoracic
   d. Axillary

B. Clinical Syndromes
1. Motor Neuron
   a. Multifocal Motor Neuropathy with Conduction Block
   b. Amyotrophic Lateral Sclerosis
   c. Other (Polioymelitis, Spinal Muscular Atrophy
2. Dorsal Root Ganglion Disorders/Sensory Neuronopathies
3. Root
   a. Radiculopathy
   b. Polyradiculopathy
   c. Root Avulsion
4. Plexus Lesions
   a. Erb’s Palsy
   b. Neurogenic Thoracic Outlet Syndrome
   c. Parsonage Turner

5. Mononeuropathies
   a. Median at the Wrist (Carpel Tunnel)
   b. Ulnar at the Elbow
   c. Ulnar of Guyons Canal
   d. Radial Nerve (Saturday Night Palsy)
   e. Mononeuropathy Multiplex
   f. Tibial at the Ankle (Tarsal Tunnel)
   g. Peroneal at Fibular Head
6. Polyneuropathies
   a. Hereditary (Charcot Marie Tooth)
   b. Acquired
      1. Acute Inflammatory Demyelinating Polyneuropathy (AIDP)
      2. Chronic Inflammatory Demyelinating Polyneuropathy (CIDP)
      3. Other (Toxic, Metabolic, Infectious, etc.)
7. Muscle Disorders

VII. TECHNICAL CONSIDERATIONS, ANOMALIES, AND SAFETY
A. Physiologic Factors
   1. Temperature
      a. Effects on Latency, Velocity, and Amplitude
      b. Effects on Repetitive Stimulation Factors
      c. Warming Methods
   2. Age
   3. Height
   4. Anomalous Innervation
      a. Martin Gruber Anastomosis
         1. Hypothenar (ADM)
         2. First Dorsal Interosseous
         3. Thenar (APB)
      b. Richie Cannieu Anastomosis
      c. Accessory Peroneal
B. Technical Factors
   1. Electrode Size
   2. Electrode Polarity
   3. Distance of Reference
   4. Electrode Placement
   5. Electrode Impedance

(Continued on next page)
EXAMINATION CONTENT OUTLINE (CONT’D)

6. Measuring Errors
7. Limb Position
8. Antidromic vs. Orthodromic
9. Troubleshooting Abnormal NCS Findings

C. Safety Factors
   1. Infection Control Guidelines
      a. Transmissible Disease/Standard (Universal) Precautions
      b. Disinfection
   2. Electrical Safety
      a. Equipment
      b. Leakage Current
      c. Electrically Sensitive Patients
   3. Practice Compliance
      a. HIPAA
      b. OSHA

(End of Content Outline)
SAMPLE EXAMINATION QUESTIONS

In the following questions, choose the one best answer.

1. If a patient presents with a possible upper trunk plexopathy, changes in which of the following diagnostic studies would most likely support a diagnosis of a lesion at this level?
   1. Median and ulnar sensory studies
   2. Median motor and ulnar sensory studies
   3. Ulnar and radial sensory studies and ulnar F wave studies
   4. Radial, median, and lateral antebrachial cutaneous sensory studies

2. The ulnar nerve is derived from which of the following roots and brachial plexus components?
   1. C6,7; lower trunk; medial cord
   2. C7,8,T1; lower trunk; posterior cord
   3. C8,T1; lower trunk; medial cord
   4. C8,T1; lower trunk; lateral cord

3. Preganglionic injury (proximal to the dorsal root ganglion) results in Wallerian degeneration to the
   1. motor axons only.
   2. sensory axons only.
   3. both motor and sensory axons.
   4. neither motor nor sensory axons.

4. If an individual referred for nerve conduction studies has a complete lesion of the femoral nerve immediately distal to the dorsal root ganglion, the H reflex studies would be expected to be
   1. absent.
   2. delayed.
   3. reduced.
   4. unaffected.
5. The distal onset latency on a median motor study is 3.4 ms and the proximal latency is 7.4 ms. If the distance between the two sites is 226 mm, what is the conduction velocity of this segment?

1. 32 m/sec
2. 57 m/sec
3. 66 m/sec
4. 77 m/sec

6. What nerve conduction study is being performed in the photograph below?

1. Median sensory antidromic
2. Ulnar sensory antidromic
3. Median sensory orthodromic
4. Ulnar sensory orthodromic

CORRECT ANSWERS
1. 4
2. 3
3. 1
4. 4
5. 2
6. 2
As a Member of the American Association of Electrodiagnostic Technologists, I subscribe to this Code of Ethics.

1. In my work I will act in a manner so as to merit the respect of my patients, my colleagues, and/or my fellow AAET Members.

2. I will not work outside my scope of practice and will adhere to the state or regulatory guidelines for which I am employed.

3. I will maintain confidentiality as defined by Health Insurance Portability and Accountability Act (HIPAA) regarding any patient information.

4. I will treat all patients with the utmost respect and courtesy, regardless of their sex, race, creed, or the nature of their presenting disease.

5. I will strive to achieve excellence and maintain competence in my work, and to assist and encourage other technologists to do the same.

I understand that by becoming a R.NCS.T. and/or member of AAET I am bound by this Code of Ethics. I will abide by the rules and regulations as set forth by the Board of Directors of the American Association of Electrodiagnostic Technologists. I understand that my membership may be revoked if I am found to be in violation of this code.
# REFERENCES

The following references may be of some help in preparing for the examination. The list does not attempt to include all acceptable references, nor is it suggested that the AAET National Registry Examination for Nerve Conduction Studies is necessarily based on these references.

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Edition</th>
<th>Publisher</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dorland’s Pocket Medical Dictionary</td>
<td>32nd</td>
<td>Dorland Elsevier Health Science Division</td>
<td>Saunders</td>
<td>1995</td>
</tr>
<tr>
<td>Dumitru, Daniel; Amato, Anthony; Zwarts, Machiel.</td>
<td>Electrodiagnostic Medicine</td>
<td>2nd</td>
<td></td>
<td>2002</td>
</tr>
<tr>
<td>Liveson, Jay A; Ma, Dong M.</td>
<td>Laboratory Reference for Clinical Neurophysiology</td>
<td></td>
<td></td>
<td>1992</td>
</tr>
<tr>
<td>Preston, David &amp; Shapiro, Barbara.</td>
<td>Electromyography and Neuromuscular Disorders</td>
<td>2nd</td>
<td>2005 and 3rd</td>
<td>2013</td>
</tr>
<tr>
<td>Tan, Faye Chiou, MD.</td>
<td>EMG Secrets: Questions and Answers Reveal the Art and Science of Electromyography</td>
<td></td>
<td></td>
<td>2003</td>
</tr>
</tbody>
</table>
R. NCS.T. EXAMINATION ATTESTATION STATEMENT

Candidate Name: ________________________________________________

Address:
___________________________________________________
___________________________________________________
___________________________________________________

E-mail Address
___________________________________________________

SUPERVISING PHYSICIAN

- I attest that the above named candidate: (check all that apply)
  - ☐ has undergone on-the-job training in NCS under my direction.
  - ☐ is not performing invasive (needle) examination and that as the supervising physician, I am responsible for interpreting the data obtained in NCS and needle EMG testing.
  - ☐ has satisfactorily completed the 100 patient encounters documented on the ‘submitted cases sheet’.
  - ☐ is competent in NCS testing and ready to sit for the R. NCS. T board examination.
  - ☐ has graduated from a CAAHEP accredited neurodiagnostics/END program OR has one year experience

Signature: __________________________ Name: __________________________

Email: __________________________ Date: __________________________

(for use by AAET to confirm or clarify candidate information.)
R.NCS.T. APPLICATION

NCS Patient Encounter Documentation Form

A patient encounter is defined as an individual patient visit. No more than 12 encounter per day; only encounters within three (3) years of application date will be accepted. Present cases in chronological order.

Candidate: ________________________________ Employer: ________________________________

Dates of studies: ______________ through ______________

<table>
<thead>
<tr>
<th>#</th>
<th>DATE</th>
<th>PATIENT Referral (Mononeuropathy, Radiculopathy, MND, NMJD, Plexopathy, etc.)</th>
<th>SUPERVISING MD</th>
<th>NORMAL OR ABNORMAL?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page _______ of ________