

# **Handbook of Neurodiagnostic Job Descriptions and Competencies**

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## **Job Title: Electroencephalographic (EEG) Technologist II**

**This Job Description is designed to be used as a guideline in conjunction with the facility policies and procedures.**

**The duties listed in this Job Description guideline are performed under the direction of administrative and clinical leadership as defined by facility policies and procedures.**

**The supervision levels in this Job Description guideline refer to technical supervision only.**

**General Summary:** The EEG Technologist II has passed examination by the American Board of Registration of Electroencephalographic and Evoked Potential Technologists, Inc. (ABRET) and proven competence to obtain a credential in electroencephalography (R. EEG T.\*). The EEG Technologist II has a minimum of three years experience in performing electroencephalography. The EEG Technologist II provides findings, results, and a descriptive analysis according to facility policy and procedures. Strong well developed communication skills are essential for this position. The EEG Technologist II performs procedures appropriate to their competence and credentials held under **general technical supervision**<sup>3</sup>.

<sup>3</sup>**General technical supervision** requires that the EEG procedure is performed under technical supervision as detailed in the facility policy and procedure manual.

**Minimum Requirements:** An EEG Technologist II must have all of the following in addition to being BLS certified:

1. Credential in electroencephalography (R. EEG T.\*).
2. Three or more years experience in the performance of EEG procedures in a patient care environment.
3. Well developed PC and Microsoft™ Windows® knowledge.

### **Education:**

Graduation from a Commission on Accreditation of Allied Health Education Programs (CAAHEP) accredited Electroneurodiagnostic (END) Program, or an Associate's degree or higher from an accredited college or university is desired.

**Reports to:** The EEG Technologist II works under **general technical supervision**<sup>3</sup>. Administrative and clinical leadership as is defined by facility policy and procedures.

### **Principal Duties and Responsibilities:**

Detailed competency criteria: *National Competency Skill Standards for Performing an Electroencephalogram* are published in this *Handbook of Neurodiagnostic Job Descriptions and Competencies* on page 12.

The EEG Technologist II has an expected level of competence and is able to independently perform duties and responsibilities for electroencephalography under **general technical supervision**<sup>3</sup>; recognizes clinically significant events and follows facility policy and procedures regarding critical test results\*\*; maintains continuing education requirements of ABRET for

R. EEG T. credential by reviewing literature and attending educational meetings for the latest accepted practices and electrical safety relevant to equipment and testing; establishes policies and procedures according to established standards of practice; performs any other related duties that are consistent with patient and technical care for this level; participates in tutoring, demonstrating, and mentoring other team members; provides **direct technical supervision**<sup>1</sup> and **indirect technical supervision**<sup>2</sup> to the EEG Technologist I as required.

**Physical Skills:**

1. Frequent walking
2. Sitting/standing
3. Reaching including above/below shoulder height
4. Some kneeling/crawling
5. Pulling/pushing >50 pounds
6. Carrying <50 pounds

**Physical Exposure:** Lighting bright and dim, mechanical hazards, hazardous substances, infectious diseases.

**Physical Ability:** Must be good or greater: vision, hearing, manual dexterity, talking and speech, typing. Requires the ability to concentrate for long periods of time under stressful conditions and still perform properly and effectively.

**<sup>1</sup>Direct technical supervision** requires that an EEG Technologist II or a physician who performs all technical aspects required for electroencephalography must be physically present at all times during the procedure.

**<sup>2</sup>Indirect technical supervision** requires that an EEG Technologist II or a physician who performs all technical aspects required for electroencephalography must be immediately available to provide assistance and direction throughout the procedure.

**<sup>3</sup>General technical supervision** requires that the EEG procedure is performed under technical supervision as detailed in the facility policy and procedure manual.

The EEG Technologist I and EEG Technologist II job descriptions do not supersede governmental regulation and/or state licensure laws or affect the interpretation of such laws if they so exist.

**APPENDIX:**

\*The R. EEG T. credential is granted by the American Board of Registration of Electroencephalographic and Evoked Potential Technologists, Inc. (ABRET). [www.abret.org](http://www.abret.org)

\*\*Critical test results – any values/interpretations where delays in reporting may result in serious adverse outcomes for patients. MA Coalition for Prevention of Medical Errors; [www.macoalition.org/document/CTRPractices.pdf](http://www.macoalition.org/document/CTRPractices.pdf)

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## **Job Title: Intraoperative Neuromonitoring (IONM) Specialist II**

**This Job Description is designed to be used as a guideline in conjunction with the facility policies and procedures.**

**The duties listed in this Job Description guideline are performed under the direction of administrative and clinical leadership as defined by facility policies and procedures.**

**The supervision levels in this Job Description guideline refer to technical supervision only.**

**General Summary:** The Intraoperative Neuromonitoring (IONM) Specialist II is an advanced position for intraoperative neuromonitoring. An IONM Specialist II has a Certification in Neurophysiologic Intraoperative Monitoring (CNIM\*). In addition to IONM Specialist I responsibilities, the IONM Specialist II can perform IONM procedures appropriate to their competence and credentials held under **general technical supervision**<sup>3</sup>, and has proven competence in the performance of routine single and multi-modality IONM. The IONM Specialist II provides findings, results, and a descriptive analysis according to facility policy and procedures. Strong well-developed communication skills are essential for this position.

**<sup>3</sup>General technical supervision** requires that the intraoperative neuromonitoring procedure is performed under technical supervision as detailed in the facility policy and procedure manual.

**Minimum Requirements:** An IONM Specialist II must have the following in addition to being BLS certified:

1. Certification in Intraoperative Neurophysiologic Monitoring (CNIM\*) credential.
2. A minimum of 3 years experience in neurodiagnostics which includes at least 2 years in IONM.

(Credentials in neurodiagnostics from other nations may also be considered as fulfillment of the registry requirements.)

### **Education:**

Graduation from a Commission on Accreditation of Allied Health Education Programs (CAAHEP) accredited Electroneurodiagnostic (END) Program, or a Bachelor's Degree from an accredited college or university is desired.

**Reports to:** An Intraoperative Neuromonitoring Specialist II works under **general technical supervision**<sup>3</sup>. Administrative and clinical leadership as is defined by facility policy and procedures.

## **Principal Duties and Responsibilities:**

Detailed competency criteria: *National Competency Skill Standards for Performing Intraoperative Neurophysiologic Monitoring* are published in this *Handbook of Neurodiagnostic Job Descriptions and Competencies* on page 38.

IONM Specialist II performs all duties and responsibilities, for modality of monitoring requested for which competencies and credentials are held under **general technical supervision**<sup>3</sup>; provides **direct technical supervision**<sup>1</sup> and **indirect technical supervision**<sup>2</sup> to IONM Specialist I as required; maintains continuing education requirements of ABRET for CNIM certification by reviewing literature for latest accepted practices and electrical safety relevant to equipment and testing; and establishes facility policies and procedures.

The IONM Specialist II is a valuable member of the intraoperative neurophysiological monitoring team working closely and collaborating with nurses, physicians, and other medical staff caring for the patient.

### **Preoperatively:**

IONM Specialist II reviews planned intraoperative procedure and orders for monitoring to determine the structures at risk relative to patient history/pre-existing conditions and monitoring requested; makes needed adjustments in monitoring by communicating with correct personnel while maintaining patient confidentiality according to facility policy and procedures; communicates with needed departments to obtain access and scheduling of patient according to facility policy and procedures; prepares equipment and supplies for required monitoring of patient according to facility policy and procedures; identifies correct patient by name, ordering surgeon, and type of procedure to be performed and communicates the monitoring plan to the patient/caregivers/family in language consistent with their ability to understand; measures and marks correct recording and stimulation sites and applies electrodes according to facility policy and procedures.

### **Intraoperatively:**

IONM Specialist II positions monitoring equipment in the operating room to ensure patient electrical safety and communicates with team members including anesthesia, surgeon, and nursing staff according to facility policy and procedures; communicates directly with anesthesia team and surgeon to enhance monitoring results; discusses with surgeon baseline recordings according to facility policy and procedures; makes any needed adjustments in monitoring according to facility policy and procedures; monitors neurophysiologic central/peripheral functioning throughout the operative procedure communicating with surgeon, neurophysiologist, anesthesia team, and nursing staff as necessary according to facility policy and procedures; recognizes clinically significant events and follows facility policy and procedures regarding critical test results<sup>\*\*</sup>; documents in surgery log throughout the monitoring process all relative communications/responses, physiological status, anesthetic adjustments, and changes in verbal responses according to facility policy and procedures; discontinues monitoring and removes all monitoring and stimulation electrodes checking sites for pre-monitoring status according to facility policy and procedures.

**Post-operatively:**

The IONM Specialist II provides findings, results, and a descriptive analysis according to facility policy and procedure; cleans/disinfects electrodes and equipment according to facility policy and procedures; restocks equipment and electrode supplies; prints needed documents including waveforms, neuromonitoring specialist report, and surgery log to be dictated by interpreting personnel according to facility policy and procedures; charges and logs patient according to facility policy and procedures.

**Physical Skills:**

1. Frequent walking
2. Sitting /standing
3. Reaching including above/below shoulder height
4. Frequent kneeling/crawling
5. Pulling and pushing > 50 pounds
6. Carrying or pushing < 50 pounds
7. Frequent bending /stooping/crouching/twisting and continuous repetitive movements

**Physical Exposure:**

Lighting bright and dim, mechanical hazards, hazardous substances, infectious diseases, ionizing/non-ionizing radiation, and toleration of temperature ranges 60 to 75° F.

**Physical Ability:** Must be good or greater: vision, hearing, manual dexterity, talking and speech, typing. Requires the ability to concentrate for long periods of time under stressful conditions and still perform properly and effectively.

**<sup>1</sup>Direct technical supervision** requires that an IONM Specialist II or a physician who performs all technical aspects required for intraoperative neuromonitoring, must be physically present at all times during the procedure.

**<sup>2</sup>Indirect technical supervision** requires that an IONM Specialist II or a physician who performs all technical aspects required for intraoperative neuromonitoring must be immediately available to provide assistance and direction throughout the procedure.

**<sup>3</sup>General technical supervision** requires that the intraoperative neuromonitoring procedure is performed under technical supervision as detailed in the facility policy and procedure manual.

The IONM Specialist I and IONM Specialist II job descriptions do not supersede governmental regulation and/or state licensure laws or affect the interpretation of such laws if they so exist.



## **APPENDIX:**

\*The CNIM credential is granted by the American Board of Registration of Electroencephalographic and Evoked Potential Technologists, Inc. (ABRET). [www.abret.org](http://www.abret.org)

\*\*Critical test results – any values/interpretations where delays in reporting may result in serious adverse outcomes for patients. MA Coalition for Prevention of Medical Errors; [www.macoalition.org/document/CTRPractices.pdf](http://www.macoalition.org/document/CTRPractices.pdf)

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# Intraoperative Neuromonitoring Core Competencies

## 30 Days

Core Competency	Demonstrates Knowledge of/Skills in	Preceptor/Date	Comments
Employee Expectation	<ul style="list-style-type: none"> <li>• Shows initiative.</li> <li>• Shows respect and courtesy to other personnel and patients.</li> <li>• Follows facility policy and procedures for breaks, time off, meeting attendance, etc.</li> <li>• Knows emergency procedures (Code, Fire, Security, etc.).</li> </ul>		
Preparation for Patient Arrival	<ul style="list-style-type: none"> <li>• Prepares a box with supplies including chemicals, air pump, appropriate supplies, and the preoperative study.</li> <li>• Informs the interpreting physician of the case the day prior to the case.</li> <li>• Prepares acquisition system to include pertinent patient data input.</li> <li>• Arranges monitoring equipment in a location in the room relative to nursing tables, anesthesia, internet ports, the scope, sterile fields, all within the reach of cables and electrodes, prior to setting up the patient.</li> <li>• Prepares appropriate paperwork and logs.</li> </ul>		
Preparation and Application of Electrodes	<ul style="list-style-type: none"> <li>• Utilizes the International 10–20 System of electrode placement.</li> <li>• Accurately measures and marks the placement position for each electrode.</li> <li>• Uses materials and techniques to assure optimal electrode site preparation while minimizing patient discomfort.</li> <li>• Verifies appropriate impedance levels and corrects as indicated when impedance is high.</li> <li>• Places lead wires from the patient to the head boxes and stimulator boxes out of the way of the surgical field and not tangled in anesthesia's lines.</li> <li>• Places stimulator/head boxes so that they are accessible during the case, can reach both the electrodes from the patient and the machine, and are safe from spills and safe</li> </ul>		

	<ul style="list-style-type: none"> <li>from damage from falls.</li> <li>• Places cables from the OR table to the machine in a neat and safe way and covered with “no trip” if it is available.</li> </ul>		
Patient Interaction	<ul style="list-style-type: none"> <li>• Reviews pertinent information in patient’s chart including history and physical and other information prior to and after patient arrival.</li> <li>• Greets patient and introduces self by name.</li> <li>• Verifies patient identification prior to providing services by checking the patient ID band or other identifying method according to The Joint Commission (TJC) guidelines.</li> <li>• Explains application of electrodes to patient during hook-up procedure.</li> <li>• Identifies the impact of patient’s physical/mental status on the outcome of the procedure through observations and interviews to verify background information and identifies patient specific needs during testing (i.e., physical and mental limitations, current emotional and psychological status regarding the testing procedure, pertinent medical and social history, etc.).</li> <li>• Analyzes and integrates collected information to perform appropriate study, meets patient’s special requirements, and determines testing parameters/procedures.</li> <li>• Communicates appropriate information to patient in a respectful, age-appropriate manner.</li> <li>• Assists patient as needed.</li> </ul>		
Patient/Employee Safety	<ul style="list-style-type: none"> <li>• Uses Standard Precautions.</li> <li>• Maintains BLS certification.</li> <li>• Is aware of latex sensitivity.</li> <li>• Appropriately uses, disposes, and stores hazardous materials.</li> <li>• Follows OR dress code.</li> <li>• Observes TJC guidelines for patient safety.</li> <li>• Recognizes contraindications for MEPs to include epilepsy, cardiac pacemaker, intracranial implants.</li> </ul>		

Special Circumstances (sometimes in the OR it is necessary to make adjustments and to do so quickly and creatively)	<ul style="list-style-type: none"> <li>• Is familiar with location of supplies in the OR that may be needed for the cases and ask for help when needed.</li> <li>• Demonstrates critical thinking skills to include but not limited to electrode positioning, troubleshooting, interaction with other medical personnel, etc.</li> <li>• Improvises and uses alternative materials in place of the missing supplies.</li> <li>• Makes decisions about electrode placement when adjustments need to be made.</li> <li>• If necessary moves an electrode away from the surgical field and knows the appropriate place to relocate it.</li> </ul>		
Selection of Montage	<ul style="list-style-type: none"> <li>• Knows appropriate montages for each modality.</li> <li>• Utilizes of correct montage according to facility policy and procedures.</li> <li>• Uses appropriate sensitivity, LFF setting (high pass filter), HFF setting (low pass filter) and stimulus parameters (e.g., intensity, polarity, etc.</li> </ul>		
Demonstrates Appropriate Clinical/Reasoning Skills	<ul style="list-style-type: none"> <li>• Reviews patient information including history and physical, provisional (differential) diagnoses.</li> <li>• Demonstrates interviewing skills.</li> <li>• Utilizes systematic troubleshooting procedures and methods to correct artifacts and maintain signal integrity.</li> <li>• Discriminates between patient and device induced artifact.</li> <li>• Recognizes the need for timely intervention to assure signal and data integrity.</li> </ul>		
Documentation	<ul style="list-style-type: none"> <li>• Documents patient history, induction agents, baseline vital statistics, monitoring personnel, critical monitoring times, critical surgical procedures, neurophysiological changes, surgical notifications and responses, and anesthetic changes.</li> </ul>		
Performing Clinical Study	<ul style="list-style-type: none"> <li>• Follows professionally accepted guidelines for evoked potentials.</li> <li>• Recognizes evoked potential waveforms.</li> </ul>		

	<ul style="list-style-type: none"> <li>• Identifies artifact.</li> <li>• Troubleshoots and documents troubleshooting steps.</li> </ul>		
Communication	<ul style="list-style-type: none"> <li>• Communicates with the anesthesia team regarding the needs of the case to include/exclude paralytics, steady halogenated gases, TIVA for MEPs, etc.</li> <li>• Communicates with the interpreting neurophysiologist regarding preoperative results, baseline results, surgical procedures, technical troubleshooting, changes to waves including real changes and artifacts as well as anesthetic effects to waveforms and surgical effects to waveforms. Discusses the patient's clinical baseline and postoperative clinical outcome.</li> <li>• Discusses with the surgeon the patient's preoperative results, baseline results, changes to waveforms and appropriate alarms.</li> <li>• Reports critical test results/alarm criteria to the surgeon and interpreting neurophysiologist and documents this communication according to facility policy and procedures.</li> <li>• Demonstrates good judgment about one's own limitations and when to cease being the intermediary between the surgeon and the neurophysiologist and allow the physicians to speak to each other directly (via speakerphone).</li> </ul>		
Report Generation	<ul style="list-style-type: none"> <li>• Accurately identifies points to plot.</li> <li>• Makes accurate calculations in each modality.</li> </ul>		
Data Management	<ul style="list-style-type: none"> <li>• Accurately completes charge requisitions and files paperwork.</li> </ul>		

**Development Plan:**

**\* Completion of this form and signature indicates that you are competent to independently perform the above.**

\_\_\_\_\_  
Employee Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Preceptor Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Manager Signature

\_\_\_\_\_  
Date