

ELECTROENCEPHALOGRAPHIC TECHNOLOGY PRACTICE ANALYSIS
Updated March 2018

This Document represents a delineation of the tasks (T) performed and knowledge (K) applied by electroencephalographic technologists in the practice of their profession. This practice takes place in the context of their unwavering commitment to patient care and safety and their adherence to the highest principles of ethical behavior.

(26%) Domain I – Fundamental Concepts

- T-1 Extract relevant patient health information from medical records and obtain additional information from patient/caregivers in order to plan recording strategies and avoid adverse effects

The safe and effective performance of this task requires knowledge of:

- K-1 Elements of a patient history
- K-2 Medical terminology
- K-3 Effects of drugs on recordings
- K-4 Neurological Disorders (e.g. seizures, tumors, vascular disease)
- K-5 Psychiatric Disorders
- K-6 Toxic/metabolic and infectious diseases
- K-7 Head trauma
- K-8 Neuroanatomy
- K-9 Medical contraindications to activation procedures
- K-10 Electrographic correlates to clinical entities
- K-11 Sedation practice
- K-12 HIPAA standards
- K-13 Skull defects and malformations
- K-14 Allergies/sensitivities (e.g. latex, tape)
- K-15 Neuroimaging and other diagnostic procedures

- T-2 Explain the testing procedure to patient/caregivers in a manner consistent with their ability to understand in order to establish rapport and elicit cooperation.

The safe and effective performance of this task requires knowledge of:

- K-16 Components of an EEG procedure
- K-17 Age-specific criteria
- K-18 Techniques for establishing rapport
- K-19 Cognitive limitations

(60%) Domain II - Performing the EEG Study

- T-1 Measure and mark the patient's head to determine the electrode sites

The safe and effective performance of this task requires knowledge of:

- K-8 Neuroanatomy
- K-17 Age-specific criteria
- K-18 Techniques for establishing rapport
- K-19 Cognitive limitations
- K-20 10-20 electrode placement system
- K-21 Metric system
- K-22 Infection control

T-2 Prepare the sites for electrode placements in order to reduce impedance

The safe and effective performance of this task requires knowledge of:

- K-22 Infection control
- K-23 Conditions affecting impedance
- K-24 Skin integrity

T-3 Securely apply the electrodes

The safe and effective performance of this task requires knowledge of:

- K-17 Age-specific criteria
- K-18 Techniques for establishing rapport
- K-19 Cognitive limitations
- K-22 Infection control
- K-25 Electrode application techniques (e.g. paste, collodion, needle electrodes)
- K-26 SDS/OSHA standards

T-4 Check impedance to ensure electrode integrity

The safe and effective performance of this task requires knowledge of:

- K-23 Conditions affecting impedance
- K-27 Characteristics of the differential amplifier (e.g. polarity, CMRR)
- K-28 Range of standard impedance values

T-5 Perform the EEG study according to ACNS Guidelines while ensuring the integrity of the data and equipment

The safe and effective performance of this task requires knowledge of:

- K-1 Elements of a patient history
- K-2 Medical terminology
- K-3 Effects of drugs on recordings
- K-4 Neurological Disorders (e.g. seizures, tumors, vascular disease)
- K-5 Psychiatric Disorders
- K-6 Toxic/metabolic and infectious diseases
- K-7 Head trauma
- K-8 Neuroanatomy
- K-9 Medical contraindications to activation procedures
- K-10 Electrographic correlates to clinical entities
- K-13 Skull defects and malformations
- K-16 Components of an EEG procedure
- K-17 Age-specific criteria
- K-19 Cognitive limitations
- K-20 10-20 electrode placement system
- K-23 Conditions affecting impedance
- K-27 Characteristics of the differential amplifier (e.g. polarity, CMRR)
- K-29 ACNS Guidelines
- K-30 Troubleshooting techniques
- K-31 Activation procedures
- K-32 Artifact monitoring, identification, elimination and documentation
- K-33 EEG patterns
- K-34 Effects of instrument settings (e.g. filters, display gain, epoch)
- K-35 Digital instrumentation concepts (e.g. reformatting, sampling rate, system reference, post-acquisition review)
- K-36 Waveform analysis

- T-6 Modify or adjust the recording strategy and/or instrument parameters based on the technologist's evaluation of recorded data to ensure a complete and comprehensive study

The safe and effective performance of this task requires knowledge of:

- K-1 Elements of a patient history
- K-2 Medical terminology
- K-3 Effects of drugs on recordings
- K-4 Neurological Disorders (e.g. seizures, tumors, vascular disease)
- K-5 Psychiatric Disorders
- K-6 Toxic/metabolic and infectious diseases
- K-7 Head trauma
- K-8 Neuroanatomy
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- K-31 Activation procedures
- K-32 Artifact monitoring, identification, elimination and documentation
- K-33 EEG patterns
- K-34 Effects of instrument settings (e.g. filters, display gain, epoch)
- K-35 Digital instrumentation concepts (e.g. reformatting, sampling rate, system reference, post-acquisition review)
- K-36 Waveform analysis
- K-37 Polarity and localization techniques
- K-38 Montage modifications

- K-39 Electrical safety techniques

- T-7 Document patient behavior and clinical events to provide additional information for the interpretation

The safe and effective performance of this task requires knowledge of:

- K-40 Patient behaviors and clinical events (e.g. changes in level of consciousness, sleep stages, body movements, episodes)

(10%) **Domain III - Post-Study Procedures**

- T-1 Remove the electrodes and clean the electrode sites

The safe and effective performance of this task requires knowledge of:

- K-22 Infection control
- K-26 SDS/OSHA standards

T-2 Process acquired data

The safe and effective performance of this task requires knowledge of:

- K-12 HIPAA Standards
- K-40 Patient behaviors and clinical events (e.g. changes in level of consciousness, sleep stages, body movements, episodes)
- K-41 Basic computer skills
- K-42 Media management (copy, storage, archive, etc.)

T-3 Clean and disinfect electrodes

The safe and effective performance of this task requires knowledge of:

- K-22 Infection control
- K-26 SDS/OSHA standards

T-4 Ensure that scheduled maintenance of equipment is performed

The safe and effective performance of this task requires knowledge of:

- K-29 ACNS Guidelines
- K-43 Electrical safety techniques

(4%) **Domain IV - Ethics and Professional Issues**

T-1 Conduct practice in a manner consistent with the ABRET Code of Ethics

The safe and effective performance of this task requires knowledge of:

- K-44 The ABRET Code of Ethics

T-2 Maintain patient confidentiality

The safe and effective performance of this task requires knowledge of:

- K-12 HIPAA standards
- K-44 The ABRET Code of Ethics
- K-45 National Patient Safety Goals

T-3 Ensure patient safety

The safe and effective performance of this task requires knowledge of:

- K-11 Sedation practice
- K-22 Infection control
- K-24 Skin integrity
- K-26 SDS/OSHA standards
- K-43 Electrical safety techniques
- K-45 National Patient Safety Goals
- K-46 Seizure precautions