


Name of Policy: <u>Performing EEG Recordings</u> Policy Number: 3364-138-01 Department: Neurodiagnostics Approving Officer: Associate VP of Patient Care Services - UTM Responsible Agent: Manager, Neurodiagnostics Scope: The University of Toledo Medical Center Neurodiagnostics	 Effective Date: 6/1/2020 Initial Effective Date: 8/5/81				
<table> <tr> <td><input type="checkbox"/> New policy proposal</td> <td><input type="checkbox"/> Minor/technical revision of existing policy</td> </tr> <tr> <td><input type="checkbox"/> Major revision of existing policy</td> <td><input checked="" type="checkbox"/> Reaffirmation of existing policy</td> </tr> </table>		<input type="checkbox"/> New policy proposal	<input type="checkbox"/> Minor/technical revision of existing policy	<input type="checkbox"/> Major revision of existing policy	<input checked="" type="checkbox"/> Reaffirmation of existing policy
<input type="checkbox"/> New policy proposal	<input type="checkbox"/> Minor/technical revision of existing policy				
<input type="checkbox"/> Major revision of existing policy	<input checked="" type="checkbox"/> Reaffirmation of existing policy				

Purpose of this procedure is to establish guidelines for performing EEG.

1. Electrodes application

- a. The electrodes should be applied to the scalp according to Procedure # 138-06, Electrode Application & Removal techniques.
- b. Electrode impedances must be measured and reduced to less than 10 Kohms. Interelectrode impedances must be within 5 Kohms.
- c. Electrodes that are not applied in the 10/20 measured placement should be noted on technologist report and recording.
- d. If one electrode is moved due to defect then the other corresponding electrode must be moved also.

2. Recording Techniques:

- a. Calibration should be run for 20 seconds according to manufacturer's recommendations.
- b. Bio-Cal should be run for 20 seconds using Fp1-02 montage.
- c. Standard EEG filters should be used.
 - i. Sensitivity for adults should be set in the range of 5-10uv/mm, pediatric patients may require up to 15uv/mm.
 - ii. High Frequency Filter should be set at 70Hz
 - iii. Low Frequency Filter should be set at 1Hz.
- d. Montage selection will include 18.1, 18.2, 18.3 and Queen square. Each montage will be run for 5 minutes. 18.1 should be run for the necessary time to complete the EEG. HV & PS will be performed during 18.1.
- e. The EEG recording should be at least 20 minutes excluding hyperventilation and photic stimulation. If sleep is not achieved early in the recording it should be ran 30-40 minutes.
- f. The recording should be clearly marked with patient's level of consciousness, including any changes.

- g. Activations to be included are eyes opening/closure, alert testing, HV and PS. Do not perform HV or PS if contraindicated. Refer to procedure #138-16, Photic Stimulation during EEG recording and #138-17, Hyperventilation during EEG recording.
- h. Careful observation of the patient with frequent annotations on the recording is essential particularly when unusual waveforms are observed in the recording. Annotate instructions given to patient.
- i. HV and Photic stimulation will be done at end of recording. A sleep deprived patient can perform HV early in the recording. HV can also be helpful in relaxing a patient.

3. Artifact Localization:

- a. All artifacts that cannot be removed will be monitored.
- b. EKG will be monitoring on the last channel of every montage. Electrodes will be placed on the right and left upper chest area.
- c. EMG will be monitored by placing electrodes over the most involved muscle group.
- d. Electrodes can be placed to monitor eye movements.
- e. The 60 Hz filter can be used to filter out electrical interference that is present. Only use filter if you cannot eliminate the source.

4. End of recording:

- a. Calibration and Bio-Cal should be performing for 20 seconds
- b. Electrodes should be removed according to Procedure # 138-06, Electrode Application & Removal techniques.
- c. All paper work should be completed

Approved by: /s/ _____ Date _____ Cynthia Zapotosky, BSN, RN Manager, Neurodiagnostics		Review/Revision Date: 8/11/2010 8/11/2011 5/29/2014 6/1/2017 5/30/2020
/s/ _____ Date _____ Monecca Smith, MSN, RN Associate Vice President of Patient Care Services		
		Next Review Date: 6/1/2023
Policies Superseded by This Policy:		