

**OLIVE VIEW-UCLA MEDICAL CENTER
NEUROLOGY DEPARTMENT
POLICY & PROCEDURE**

**NUMBER: 2211
VERSION: 2**

SUBJECT/TITLE: ELECTROCEREBRAL INACTIVITY (ECI) - PROEDURAL PROTOCOL

POLICY:

1. All ECI recordings are done portably in either an ICU or (rarely) the emergency room.
2. ECI recordings are run for a minimum of 30 minutes, with an American Society of Electroneurodiagnostic Technologists (A.S.E.T.)-recommended double-distance bipolar or referential montage (see Fig. 8).
3. The patient's vital signs are documented (temperature, blood pressure, respiration). The recording begins with calibration, Bio-Cal, and then the double-distance bipolar ECI montage. The amplifiers and chart speed are set at the beginning of the recording as for a routine EEG: sensitivity 7 μ V/mm, time scale 10 seconds/page, high frequency filter 70 Hz, low frequency filter 1 Hz, and 60-Hz notch filter off. The sensitivity is then quickly raised to 5 μ V/mm, then 3 μ V/mm, and finally to the official ECI sensitivity of 2 μ V/mm. The tracing is then run at 2 μ V/mm for at least 30 minutes. The 60-Hz notch filter may be turned on for individual channels if necessary. Electrode impedances are maintained between 100 and 5,000 ohms; impedance checks are performed at least twice during the course of the recording.
4. The integrity of the recording system is tested by touching electrodes and observing the recording for a corresponding artifact.
5. An electrode may be placed on the dorsum of the hand to monitor extracerebral fields, in case a question arises about the real versus artifactual nature of certain waveforms.
6. The patient is stimulated in a number of ways, including auditory, photic and noxious tactile stimulation.
7. The patient is also videotaped for all or a portion of the recording.
8. If muscle or movement artifact obscures the recording, a pharmacological paralyzing agent, such as pancuronium or vecuronium, may be given by the ICU staff. If respiratory artifact is difficult to distinguish from EEG delta waves, the mechanical ventilator can be briefly stopped by the ICU staff or respiratory therapist, in order to reveal the true EEG background uncontaminated by respiration artifact.
9. If the patient is in isolation, any applicable isolation protocols are followed; otherwise, the recording is terminated according to the same protocol as for

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Policy Number: 2211

Page Number: 2

routine EEGs.

10. The electroencephalographer will review the recording at a sensitivity of 2 μ V/mm, using one or more standard double-distance montages. Portions of the recording will be reviewed with the low frequency filter lowered to 0.5 Hz to detect any subtle slow waves.

PURPOSE: Standardized method of establishing electrocerebral inactivity.

DEPARTMENTS: NEUROLOGY

DEFINITIONS:

PROCEDURE:

References:	
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