Northwestern Memorial® Hospital

CLINICAL GUIDELINE

Subject: **NEUROLOGICAL TESTING CENTER**	Pages 4	NTC Policy #7
Title: **EEG Monitoring during FDG PET acquisition**	Revision of: NEW	Effective Date:

I. PURPOSE:

FDG PET is performed for the Localization of an epileptic focus in patients with intractable epilepsy undergoing pre-surgical evaluation. FDG-PET scan is used to determine regions of interictal glucose hypometabolism.

The interpreting physician should be aware of any seizure activity around the time of the study. For this reason, the patient will be asked for seizures in the 24 hours preceding the study and a peri-procedural EEG recording is obtained.

Patient should notify the NTC immediately if they had a seizure within the 24 hours preceding the study. If the patient typically has daily seizures, the epileptologist and the interpreting nuclear medicine physician may still decide to continue with the study. However, if the patient has less frequent events, the study may be re-scheduled. If the patient typically has daily seizures, the interpreting physician and the epileptologist may still decide to continue with the study. However, if the patient has less frequent events, the study may be re-scheduled.

II. CLINICAL GUIDELINE:

Persons Affected: The Nuclear Physicist, Neurophysiologist, EEG Technologist and Nuclear Medicine Technologist.

III. PERSONS AFFECTED:

Neurological Testing Center technical staff, Attending Neurophysiologist. Neurology and Neurosurgical team, Neurospine ICU team.

IV. PROCEDURE GUIDELINES:

A. SCHEDULING:

1. Outpatient studies: Patient will present at the Neurological Testing Center in Galter 7 (NTC) for electrode placement one hour prior to FDG PET appointment. For patients who will be admitted afterwards, the study will be scheduled on Monday morning. PET studies separate from EMU admission can be scheduled on other weekdays based on availability.

2. Inpatient studies: Patients in the Epilepsy Monitoring Unit will continue to be monitored while transferred to the Nuclear Medicine department. During the injection period, video EEG will be recorded through a portable acquisition device.

B. RECORDING:

1. The patient will be taken to the Nuclear Medicine Department with the EEG technologist.

2. The technologist should plan on being available for 60-90 minutes to monitor EEG prior to scanning.

3. The technologist should bring all tools including EEG recording computer, any tools needed to fix electrodes, and acetone, in order to remove the wires prior to injection.

C. PATIENT:

1. The technologist will set up his/her recording equipment and make sure that the patient understands that they will need to be quiet throughout the test, unless the patient feels a seizure coming on.

2. The patient should expect to lay still for approximately 30 minutes while recording the EEG. After the trace is injected, another 30-45 minutes of quiet time is needed before scanning.

3. The patient should have a push button close by to be able to alert technologist of any aura or seizure.

4. The technologist will monitor the patient before and after injection of the radioactive isotope. Any seizures activity should be monitored closely and reported to the Nuclear Medicine technologist after the injecting is complete, but prior to scanning.

5. Once the radioactive tracer has been metabolized, 45 minutes after injection, the Radiology technician will notify the EEG technician to take off the leads and to terminate the recording.

D. REPORTING:

1. Outpatient EEGs during FDG PET are reported using the standard EEG (EE) template. Inpatient EEGs are part of the EMU (EU) Video EEG report and should be reported under additional testing including any increase in interictal or ictal activity preceding the FDG PET.

2. If the technician during recording and review of the EEG tracings has suspicion of any clinical or EEG seizure activity or notices an unusual amount of interictal epileptiform activity compared to patient's baseline, the physician scheduled for routine EEGs interpretation on that day should be notified immediately to allow

an urgent interpretation of the EEG. Typically, the EEG will be interpreted as part of the routine EEG studies of that day and a report forwarded to the Nuclear Medicine Physician.

E. BILLING
1. Outpatient EEGs during FDG PET are billed as an EEG > 1 hour.
2. Inpatient EEGs during FDG PET are billed as part of the Video EEG monitoring.

POLICY UPDATE SCHEDULE:

Minimum of every three years or more often as appropriate.

REFERENCES:

1. *Guideline 1: Minimum Technical Requirements for Performing Clinical Electroencephalographpy, American Clinical Neurophysiology Society, 2006*
2. *Guideline 3: Minimum Technical Standards for EEG Recording in Suspected Cerebral Death, American Clinical Neurophysiology Society, 2006*

Appendix A:
Standard Montages

APPROVAL

Responsible Party:	Manager, Neurological Testing and Sleep Disorders Center
Reviewers:	Medical Director, Neurological Testing Center Manager, Neurological Testing and Sleep Disorders Medical Director, Comprehensive Epilepsy Center
Approval Parties:	Manager, Neurological Testing and Sleep Disorders Center
	Medical Director, Comprehensive Epilepsy Center

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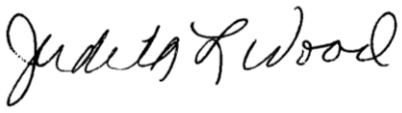
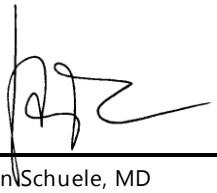
Policy Approved by:

X 

Judith Wood
Manager, Neurological Testing Center

X 

Stephan Schuele, MD
Medical Director, Neurological Testing Center