(A) Policy Statement

EEG monitoring during an Intracarotid Sodium Amytal test (WADA) for determination of cerebral dominance.

(B) Purpose of Policy
To provide guidelines for performing the WADA test in the Radiology Cath-Lab.

(C) Procedure

EEG TECHNIQUE:

I. Hook-up:
   A. Place a set of scalp electrodes on the patient before the patient is taken to the Cath-Lab. The patient will arrive to the EEG lab 1 ½ hours prior to scheduled time to be in the Cath-lab. Prior to placement of the electrodes, have the patient put on a hospital gown. He/she may leave on their pants.
   B. Use the International 10-20 Electrode Placement with Collodion technique.
   C. The standard monitoring montage, unless otherwise specified by the Neurologist, is the longitudinal A-P bipolar chain montage. A1 and A2 electrodes, and shoulder to shoulder EKG lead must be included.
   D. Electrodes must have an impedance equal or less than 5 Kilohms and greater than 1 Kilohms.
   E. During electrode placement, get as much recent seizure history as possible, as well as medication list.

II. Supplies to take to the Cath-Lab:
   A. Portable EEG system.
   B. Electrode replacement and gelling supplies: Extra electrodes, gauze squares, gel syringe, luer stub adaptor, and Ten-20 conductive cream.
   C. Head-box, a roll of water-proof (adhesive) tape to help secure the Head-box to the Cath-Table and the patient cable to the floor.

III. Steps:
   A. Position the machine at the left side of the patient’s head.
   B. Plug in the equipment; safely tape the cables and headbox securely to the procedure table.
C. Run as much baseline EEG as there is time for before the Angiogram is started and then continuous monitoring during the entire procedure. Report any EEG changes to the Electroencephalographer.

D. When the angiogram is started there is movement of the table and equipment, make sure the headbox is securely taped to the head of the table.

E. The headbox may have to be repositioned during the X-ray procedures to meet the needs of radiology. The technician will need to keep close observation of the location of the headbox in order to prevent tension on the electrodes.

F. The technicians will have to either wear a protective apron or step outside the room during the taking of x-rays.

G. After the catheter has been placed and the x-rays taken the WADA team is called in for the procedure.

H. The Neuropsychologist will perform some memory exercises with various words, pictures, and objects.

I. The Radiologist will inject the sodium amytal into either the left or right internal carotid artery. The technician will document when this is done and the amount given.

J. The technician will usually observe an EEG change on the injected side in the form of slowing which will last for 10 to 20 seconds or less. Any changes should be reported to the Neurologist/Electroencephalographer.

K. The Neurologist and the Neuropsychologist will test the patient for lateralized weakness, speech deficit and memory deficit during the procedure. The EEG technician will document the responses by annotating on the digital machine.

L. The WADA Team will indicate when the test is completed. They may inject only one carotid artery or they may inject both. They will inform the technician if they need to inject the other side and if so, the procedure will be repeated.

M. At the end of the procedure the EEG equipment will be removed from the Cath-Lab. The data is archived to an optical disk and a copy is put on the review station along with the patient information for dictation.

**Monitoring Montage**

FP1-F3
F3-C3
C3-P3
P3-O1
FP2-F4                      Cal=50uV
F4-C4                      Sens=7.5uV/mm
C4-P4                      HFF=70Hz
P4-O2                      LFF=1Hz
FP1-F7                    60Hz Filter=Off
FP7-T3
T3-T5
T5-O1
FP2-F8                   Paper Speed=30mm/sec or 15mm/sec
F8-T4
T4-T6
T6-O2                      Cz-Pz
Fz-Cz
EKG
IV. After the Procedure:
The patient will be returned to the Cath-Lab holding area. This is where the EEG technical staff can safely remove the electrodes from the patient.