(A) Policy Statement

Interictal PET Scan is used in the evaluation of patients with intractable epilepsy as part of the presurgical work up.

(B) Purpose of Policy
To establish routines for performing Interictal PET Scan outpatient EEG recordings for all age groups.

(C) Procedure

1. Scheduling:
   a) The scheduling is co-coordinated with Nuclear Medicine Technologist as to the date and time of the procedure.
   b) The patient is to arrive in EEG two hours before the Nuclear Medicine injection is to be given.
   c) Patient is to be NPO after midnight of the study.
      1) Register the patient in the EEG Log Book to assign an EEG log number for the test to be done.
      1) Complete as many fields as possible before the test is started.
      2) Collect a log number for the test to enter into the signal file name screen to start recording.
   d) Patient Preparation:
      1) Patients should be offered the chance to use the restroom before electrodes are applied.
      2) Interaction with the patient shall be conducted according to professional standards and ethics.
      3) Explain to the patient (or parents of small children) what may be expected during the test preparations and recording and address any questions or concerns mentioned.
      4) Perform a blood sugar test per hospital protocol. The blood sugar must be below 200.
      5) Interview the patient and document a relevant history on the digital system.
      6) Contact Nuclear Medicine and provide the following information:
         1) Confirm Patient arrival
         2) Blood sugar level
         3) Start of study time
         4) Time will be ready for injection of isotope
    7) Room conditions shall be made sleep-conducive to the extent possible.
       1) Provide the patient with a blanket (PRN).
       2) Provide the patient with a comfortable head/neck support.
3) Upon completion of electrode application technique, darken the room lights and try to minimize noises.
4) Minimize observers/visitors; provide adequate orientation to the need for noise control.
   (a) One parent; no siblings during recording.
   (b) Limit to one staff observer/trainee per recording session.
5) Provide a source of "white noise" whenever possible.
8) Attach electrodes according to established policy and standards of practice.

2. Standard Recording Techniques:
   a) Calibrate the instrument according to established policy and standards of practice.
   b) Run the EEG recording employing montages according to established policy and standards of practice.
   c) Make appropriate annotations on the EEG based upon close observation of the patient during the recording.
      1) Write or otherwise annotate on the EEG any physiological changes that could influence EEG waveforms including but not limited to eye opening and eye closure, head movements, jaw movements, eye movements, limb movements, talking, sneezes, coughs, etc.
      2) Write or otherwise annotate on the EEG recording observations reflecting transition to and from drowsiness or sleep.
      3) During light sleep, correlate the occurrence of K-complexes with occurrence of light, sudden noise (even outside of the room).
   d) Include portions of the EEG recording during which the patient's eyes are both opened and closed.
      1) If the patient is comatose or can not hold eyelids open, elevate the patient's eyelids and keep eyes open approximately 10 seconds or enough to demonstrate on the EEG any waveform changes. Do this twice as the start of the study.
      2) Repeat this procedure at least one more time before the end of the recording.
   e) Unless the patient is already asleep at the beginning of the recording, perform an alerting task early in the recording.
      1) All tracing must show portions of the EEG baseline in the awake/alert state.
      2) Perform alerting tasks as follows:
         1) Ask the patient to open and close their eyes.
         2) Instruct the patient to hold up three fingers (any number is acceptable).
         3) Document on the EEG whether the correct number of fingers were displayed in response to the instructions.
         4) Document to what extent is or was done incorrectly or not at all.
         5) Repeat the alerting task for at least 30 seconds.
   f) Minimum acceptable recording duration of any EEG test shall be 20 minutes.
      1) After 20 minutes of recording, the isotope can be injected.
      2) Injection of the isotope occurs.
      3) EEG must run for 10 minutes post isotope injection to verify that no seizure activity occurred during this time frame.
   g) Interictal PET Scan EEG tests shall NOT include hyperventilation or photic stimulation. If seizure activity would occur, this would be an Ictal Scan.
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