Surgery for Mesial Temporal Lobe Epilepsy with Hippocampal Sclerosis
Much Work to be Done

Introduction
Mesial Temporal Lobe Epilepsy with Hippocampal Sclerosis (MTLE-HS) is a distinct epileptic syndrome with a defined underlying pathology (Wieser, 2004). Surgical resection of mesial temporal lobe structures has been shown to be highly effective in seizure reduction (Bate et al. 2007, Dupont et al. 2006). Many aspects of this approach require clarification or improvement (Engel, 1999 & Wieser, 2004). This analysis of current practice, aims to identify some of the more important ones and offer suggestions for future research.

Methodology
The published literature was reviewed as follows:
- Medline 1996 to 16.3.2007 was searched within title and abstract, using either:
  1) Epilepsy 2) Surgery 3) Outcome 4) Temporal Lobe Surgery 5) 1 and 2 or 4.
- Mesial Temporal Lobe Epilepsy with Hippocampal Sclerosis.

Multiple abstracts were reviewed and papers chosen where areas of uncertainty, or requiring improvement, arose.
- Bibliographies of relevant articles were examined for citations.
- A reference test (Pansypopulos, 2005) was examined.

Results
Six main areas were identified:
- Long duration of epilepsy before surgery offered. Average, 25 yrs (Bate et al. 2007), 70 – 13 yrs (Beg et al. 2003).
- Uncertainty in the role of interictal proton magnetic resonance spectroscopy (MRS) and interictal positron emission tomography (PET) in the presurgical assessment of patients (Wieser, 2004).
- Possible over investigation of patients with concordant MRI and EEG findings. Sensitivity % of epilepsy class to outcome improved since surgery results in such cases (Bute et al. 2007).
- Significant seizure recurrence rate post surgery, 45% decline in Engel class 1a over 10 yrs (Dupont et al. 2006).

Discussion
Engel class 1a patients post ATL or AHE over time


2. Long duration of epilepsy before surgery offered. Average, 25 yrs (Bate et al. 2007), 70 – 13 yrs (Beg et al. 2003).

3. Uncertainty in the role of interictal proton magnetic resonance spectroscopy (MRS) and interictal positron emission tomography (PET) in the presurgical assessment of patients (Wieser, 2004).

4. Possible over investigation of patients with concordant MRI and EEG findings. Sensitivity % of epilepsy class to outcome improved since surgery results in such cases (Bute et al. 2007).


6. Significant seizure recurrence rate post surgery, 45% decline in Engel class 1a over 10 yrs (Dupont et al. 2006).

Conclusion
MTLE-HS is an established syndrome, with a possible cure. A fact significantly underrated. Patient and physician awareness of this needs to be increased, with a concerted growth in neuromonitoring facilities. The assessment process requires further refinement to minimize time and cost and surgical techniques need further development. The reasons for the degree of seizure occurrence post surgery, require clarification.

Recommendations
- A cross sectional community based study to determine the actual number of patients with MTLE-HS who would benefit from surgical assessment.
- Establish a lobby group to raise awareness of this clinical and financially effective treatment for MTLE-HS and increase its timely use.
- A prospective study to determine any factors predictive of a silent period.
- Establishing a training programme to increase the number of neurosurgeons competent in AHE.
- A long term outcome study on concordant MRI and interictal EEG only, surgical patients.
- A prospective long term outcome study to determine the role of EC/EEG in defining hippocampal resection margins.

References