



Concept of epilepsy surgery and presurgical evaluation

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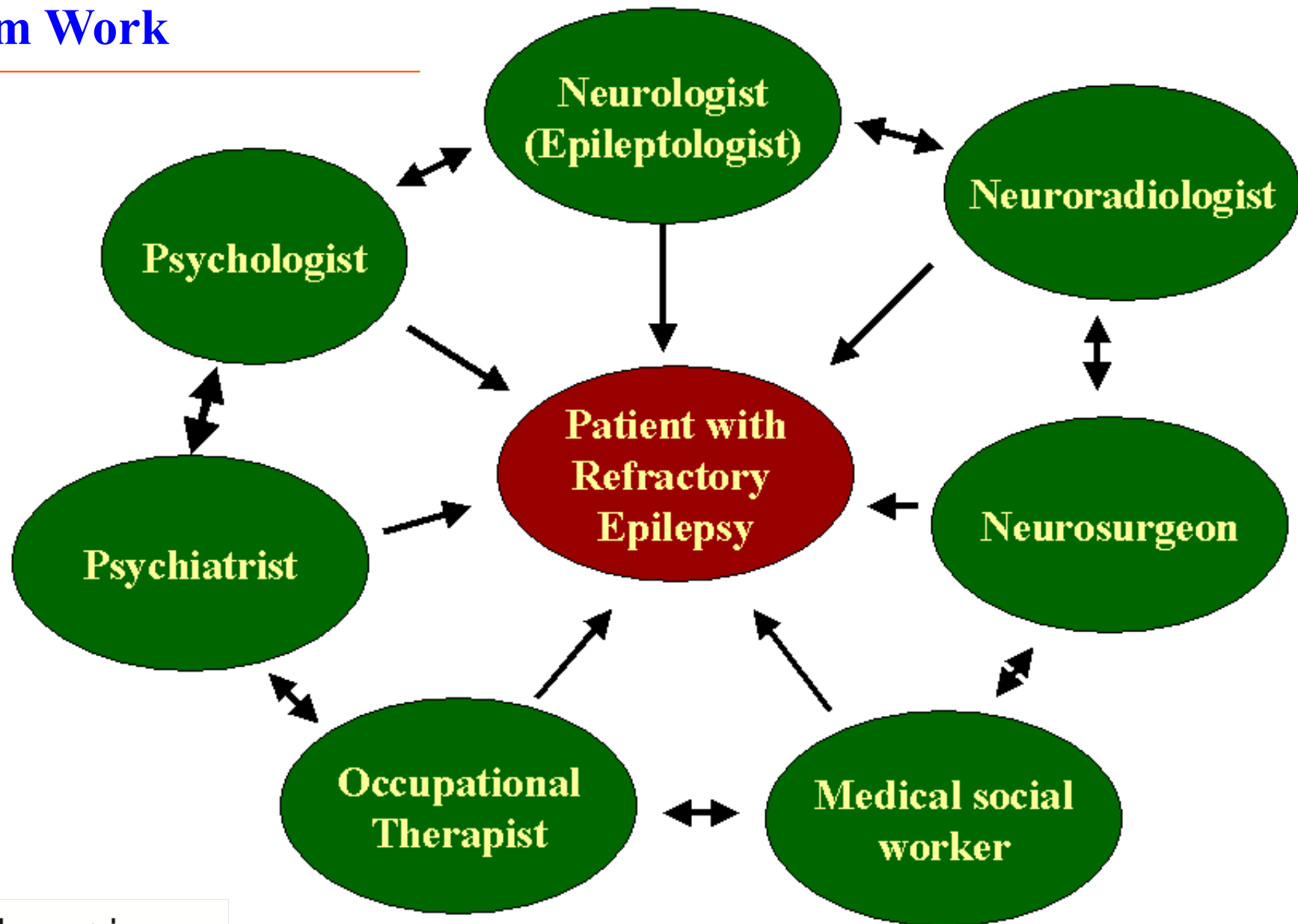
Objectives of presurgical evaluation

- Epilepsy surgery can eliminate seizures in selected patients with drug-resistant epilepsy.
- The success of the epilepsy surgery depends upon selection of ideal surgical candidates using a presurgical evaluation process.
- Two basic aims of the presurgical evaluation are:
 - Localization of the epileptogenic zone and its extent.
 - Ensure its complete and safe removal without causing neuro-cognitive or motor deficits.
- Presurgical evaluation is a multimodality approach
 - Each modality provides unique and complimentary information
 - No modality can provide absolute information
 - Concordance between different modalities is the key to success

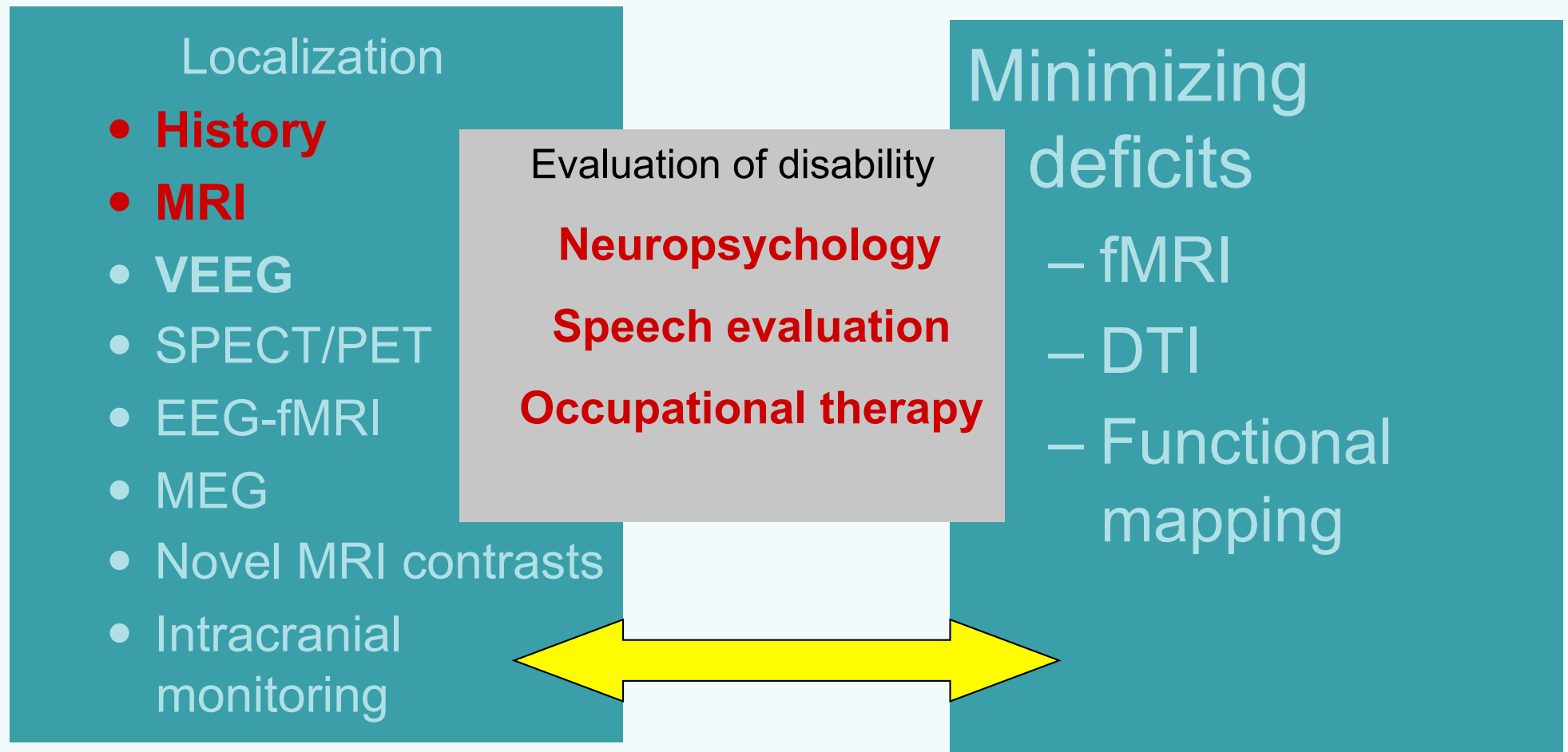
Presurgical evaluation strategies

- The basic modalities for presurgical evaluation are clinical history, MRI and long-term video-EEG monitoring.
- Additional tests include ictal SPECT, interictal PET, functional MRI, magnetic and EEG source imaging, and intracranial monitoring.
- Additional tests are required depending upon the complexity of the case
- The commonest surgically remediable syndromes are hippocampal sclerosis, focal cortical dysplasia, and benign neoplasms
- A close collaboration between different disciplines and teamwork is essential for a successful epilepsy surgery program

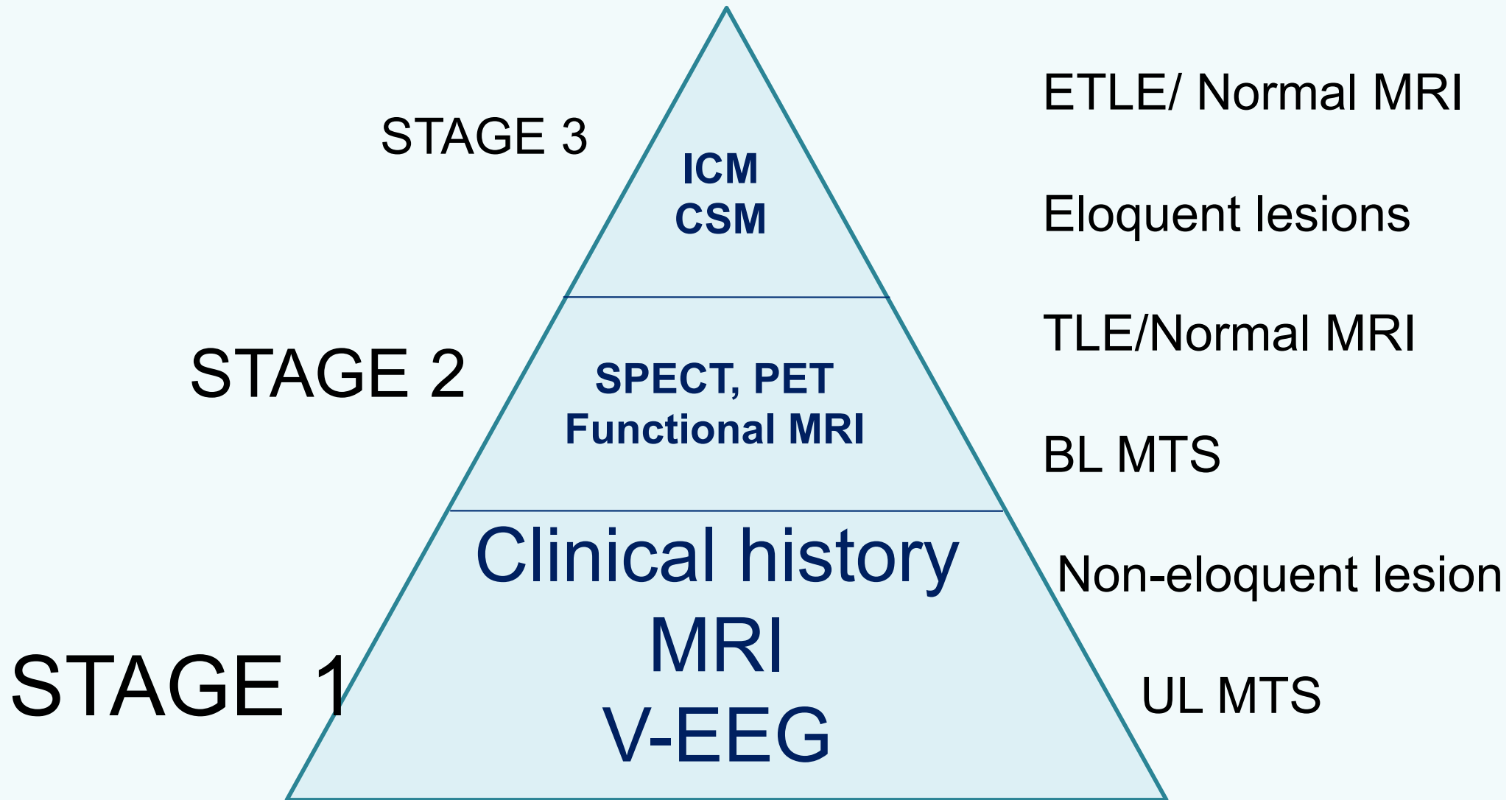
Comprehensive Epilepsy Care: Team Work



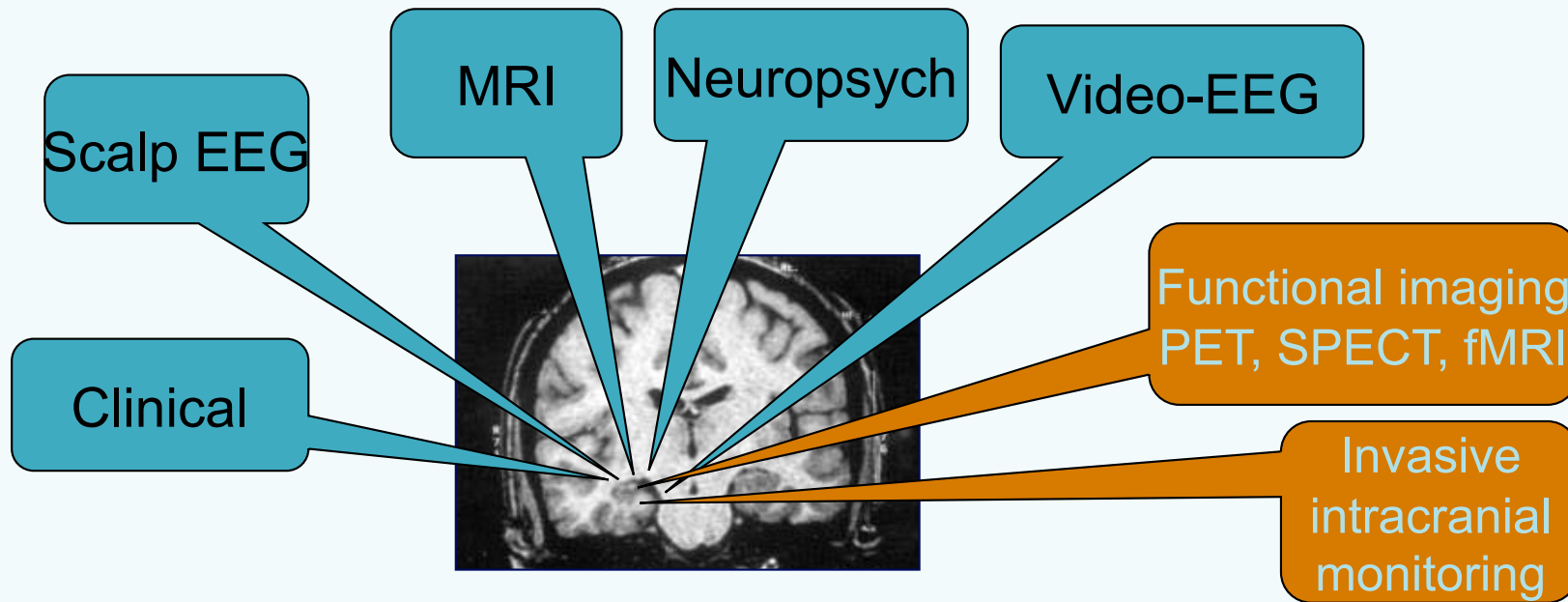
Presurgical Evaluation



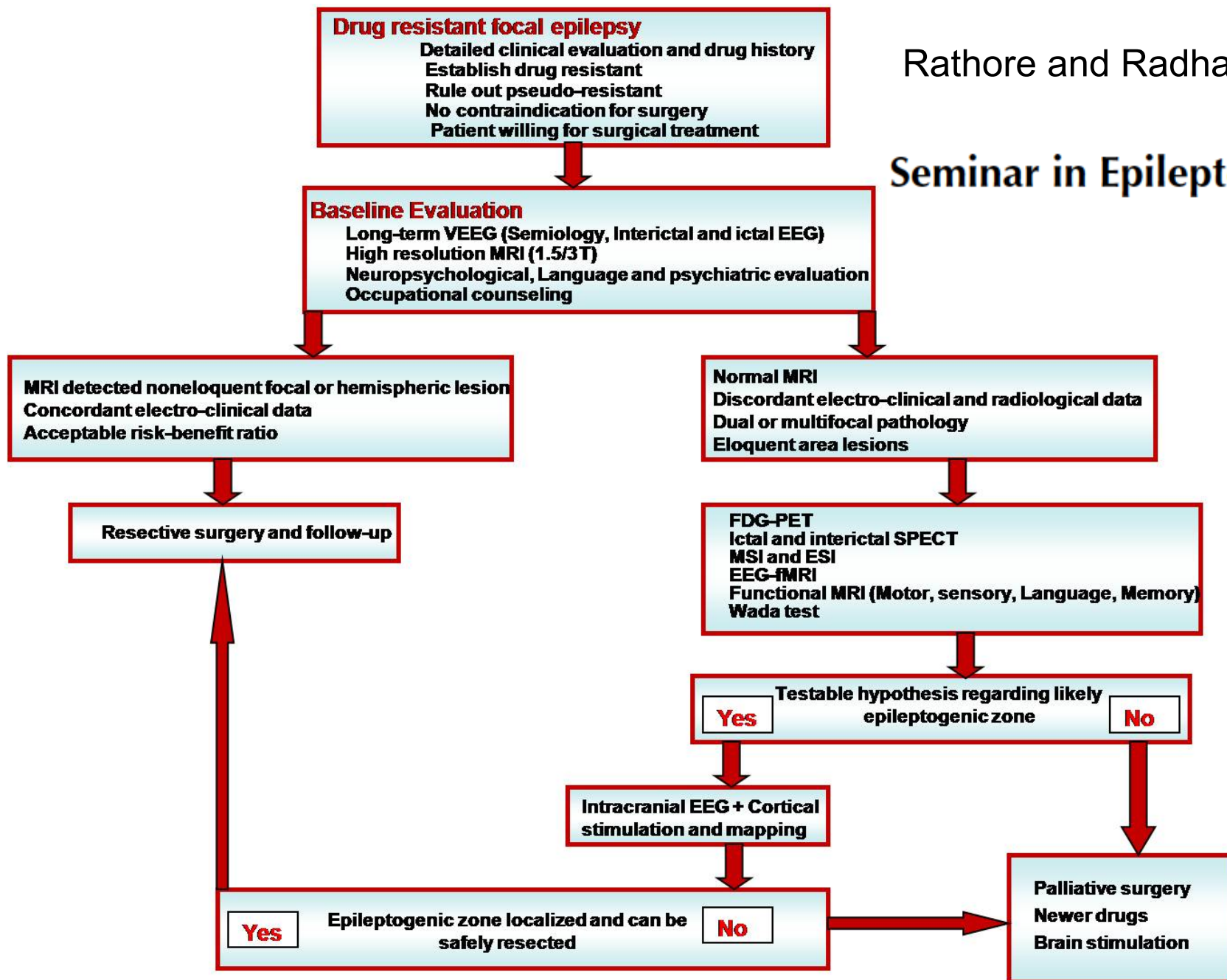
Presurgical evaluation: Step-wise approach



Presurgical evaluation



Success of epilepsy surgery depends upon the accuracy of localization during the pre-surgical evaluation process and the completeness of resection of the epileptogenic zone



An algorithm depicting the process of pre-surgical evaluation and selection for surgery