

ILAE 110th anniversary review paper

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Evolution of concepts in epilepsy surgery*

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Early History of Epilepsy Surgery

1791 – Gall – Phrenology

1828 – Dudley – 5 successful surgical cases (Kentucky)

1855 – Spencer – Localization of function

1861 – Broca – Localization of speech

1862 – Jackson – Localization of motor function

1870 – Fritsch & Hitzig – Stimulation of dog brain

1873 – Ferrier – Stimulation of monkey brain

1874 – Barthallow – Stimulation of human brain

1876 – Broca – First removal of an invisible lesion

1879 – Macewen – Removal of a frontal meningioma

1881 – Macewen – Reported a series of surgeries

1886 – Horsley – 3 cases at Queen Square

1919 – Dandy – Pneumoencephalography

1927 – Moniz – Cerebral angiography

Krause, Foster, Penfield – Lesion-directed surgery

Early History of Epilepsy Surgery

- 1875 – Caton – Electrical activity from animal brain
- 1929 – Berger – EEG
- 1938 – Gibbs, Gibbs & Lennox – 3 patterns of EEG abnormalities with epilepsy
- 1938 – MacKenzie – Hemispherectomy
- 1940 – Van Wagenen & Herron – Corpus callosotomy
- 1941 – Jasper & Kerschman – EEG abnormalities localized
- 1944 – Bickford & Cairns – First depth electrode recording
- 1951 – Bailey & Gibbs – Temporal surgery based on EEG alone
- 1951 – Jasper – EEGs and ECoGs from temporal lobe cases
- 1953 – Falconer – en bloc resection
- 1956 – Adey – EEG telemetry for NASA
- 1958 – Talairach & Bancaud – SEEG
- 1958 – Crandall – Chronic depth recording
 - EEG telemetry
 - Microelectrode recording
 - Pathological correlation

Important Ancillary Contributions

1825 – Bouchet & Cazauvieilh – HS

1880 – Sommer – HS

1899 – Bratz – HS

1968 – Falconer – HS and outcome

1950s – Milner – Neuropsychological findings

1960 – Wada – Wada test

1980s – Taylor – Psychiatric comorbidity, the predicament

1986 – First Palm Desert Conference

1992 – Second Palm Desert Conference - PET, MRI