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### Surgical Treatment of Epilepsy: Principles and Presurgical Evaluation

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#### Abstract

**Background:** A significant number of epileptic patients suffer from medically refractory epilepsy. Epilepsy surgery is considered an appropriate option for management in such cases.

**Objective:** The surgery endeavors to eradicate disabling seizures with preservation of important neurologic function and improve long-term quality of life.

**Material and Method:** The authors reviewed medical literatures and researches in regard to principles and presurgical evaluation of epilepsy surgery.

**Results:** The major concept in surgical therapy for epilepsy is complete resection or disconnection of the epileptogenic zone, which renders the patients seizure-free. Various diagnostic strategies can be comprehensively employed to delineate the epileptogenic zone and to identify the individual at risk for postoperative neurologic morbidity. From a surgical point of view, operative approaches for epilepsy can be categorized into resective surgery and functional surgery. Resective surgery aims to render the patients seizure-free, whereas functional procedure purposes to relieve frequency and severity of disabling seizures. Presurgical evaluation should be conducted by a specialized multidisciplinary team.

**Conclusion:** Several diagnostic measures and investigations involved in epilepsy surgery will be described in the article. Major steps of preoperative assessment and management algorithm for medically intractable epileptic individuals will be demonstrated as well.

**Keywords:** Epilepsy surgery, Seizure, Epileptogenic zone, Presurgical evaluation

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