

# New study shows surgery may be effective treatment option for older epilepsy patients

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A recently published study by researchers from Spectrum Health and Henry Ford Hospital suggests that surgery may be an effective treatment for epilepsy in older patients, a finding that runs counter to conventional treatment methods.

"Traditionally, there has been a tendency to exclude older patients from surgery for fear of increased risk of medical or surgical complications," said Spectrum Health Medical Group neurosurgeon Sanjay Patra, MD, lead author of the study. "This study provides evidence that surgery may instead be a viable and effective treatment option."

The study, recently published online in the *British Journal of Neurosurgery*, uses a retrospective institutional archival review of 122 Henry Ford Hospital patients with medically refractory partial [epilepsy](#). Medically refractory seizures are those that do not respond successfully to drug treatment. Partial epilepsy refers to a type of seizure that originates and remains in a limited area of the brain, such as the [temporal lobe](#).

Researchers compared surgical outcomes of a group of patients aged 50 years and older with those of a younger group of patients. The median follow-up time for both the younger and older groups was 24 months. Results showed that 74 percent of patients in the older group remained free of disabling seizures compared with 58 percent of patients in the younger group. Among patients aged 60 years or older, 91 percent remained seizure-free.

All patients underwent surgery during a 15-year period between 1993 and 2008, and were operated on by Kost Elisevich, MD, PhD, neurosurgeon, co-chair department of clinical neurosciences, chief, division of neurosurgery, Spectrum Health Medical Group, and senior author of the study.

"Patients were distinguished by age and brain location of surgery to establish whether older patients experienced less optimal outcomes regarding seizure cessation, memory, cognition, likelihood of complications and whether surgery location factored significantly in these outcome measures," Dr. Elisevich said.

Epilepsy is the third most common neurological disorder in the United States after Alzheimer's disease and stroke, affecting 2.2 million Americans, according to the Centers for Disease Control and Prevention (CDC). Older adults are among the fastest-growing segments of the population for new cases of the disease.

The majority of patients in the study underwent mesial temporal lobe surgery, which involves the removal of sections of the brain thought to be the source of seizures in mesial temporal lobe epilepsy syndrome.

The remaining patients underwent surgery at other sites in the brain, though the results of the study reinforce the widely held opinion of the medical community that the efficacy of surgery for extratemporal epilepsy to-date is inferior to that for [temporal lobe epilepsy](#), regardless of age.

Complications from mesial temporal lobe surgery and surgery in other parts of the brain can include nausea, depression, changes in personality, headaches and difficulty speaking and remembering words. The overall complication rate in the study of 14.2 percent was similar in patients less than 50 years of age (15.3 percent) and those aged 50 years or greater

(11.4 percent). Verbal memory decline, however, was more notable in the older population and for those with epilepsy duration of greater than 20 years.

"This study demonstrates that epilepsy surgery in the older population has similar seizure-free outcomes and complications when compared with younger patients for both mesial temporal and extratemporal origins," said Brien Smith, MD, co-chair, department of clinical neurosciences, and chief, division of neurology, Spectrum Health Medical Group, co-author of the study. "Caution regarding postoperative memory decline in the older population, however, must be stressed."

Researchers suggest that postoperative memory decline in [older patients](#) may be due to less cognitive reserve, but also caution that larger studies with longer term follow-up will be needed to determine if the benefits of epilepsy [surgery](#) are sustained in the older population.

Additional and continuing epilepsy research is proceeding through Spectrum Health's expanded epilepsy program. Spectrum Health announced the expansion of its inpatient epilepsy monitoring unit (EMU) and epilepsy team in late 2012. Spectrum Health is the first epilepsy program in West Michigan to receive a Level 4 designation by the National Association of Epilepsy Centers (NAEC). Level 4 centers have the professional expertise and facilities to provide the highest level of medical and surgical epilepsy evaluation and treatment for patients with epilepsy.

Provided by Spectrum Health

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