

JUNE Health Topic

Epilepsy



INSTITUTE FOR
WOMEN'S HEALTH
RESEARCH™
AT NORTHWESTERN UNIVERSITY

Epilepsy is a neurological disorder resulting from abnormal electrical signals in the brain that cause seizures. Although many seizures involve convulsions, some sufferers experience staring spells or temporary confusion.

Although the disorder is more common in men, over one million women in the United States suffer from epilepsy, and women face special challenges with the frequency and severity of epileptic seizures due to varying hormone levels throughout the menstrual cycle. For many people with epilepsy, the cause is uncertain, but epilepsy has been attributed to genetics, head trauma, or other medical disorders affecting the brain. Even mild seizures should be treated because complications could involve serious injury if seizures occur during certain activities such as driving or swimming. Diagnosis generally involves a neurological exam and brain monitoring tests such as EEG or MRI. A variety of anti-convulsant drugs are available for the treatment of seizures; surgery is less common but can be effective if seizures originate in small non-vital brain areas.

Resources at Northwestern for Epilepsy

The Comprehensive Epilepsy Center at Northwestern Memorial Hospital is Level 4 referral center offering the highest quality of assessment and treatment for patients with epilepsy. The center offers assessment by specialized neurologists, pharmacological and surgical therapies, as well as the opportunity to participate in ongoing clinical trials. Health care professionals at the center also offer counseling and support serv-

ices, and long-term care.

The Northwestern Medical Faculty Foundation Department of Neurology also offers treatment for patients with epilepsy and other neurological disorders. Operating with the Neuro Testing Center, the practice offers a wide range of diagnostic services in addition to treatment. Physicians in the practice are active in clinical research as well as patient care.

Click for physician information:

• <https://www.nmff.org/findPhysician/physearch.asp>

Northwestern Physicians/ Researchers specializing in Epilepsy

The Ken and Ruth Davee Department of Neurology at the Feinberg School of Medicine is an active research center with faculty who are involved with clinical, translational and basic science research. The department has multiple faculty members whose research interests include epilepsy and other neurological disorders. Dr. Stephan Schuele studies both the brain plasticity of post-surgical epilepsy patients and a condition known as Sudden Unexplained Death in Epilepsy (SUDEP). Through their research the department aims to advance new therapies for the treatment of various neurological disorders

IWHR Highlighted Researcher

Dr. Catherine S. Woolley, PhD is an Associate Professor in the Department of Neurobiology and Physiology and Director of the Biological Imaging Facility at Northwestern University. Dr. Woolley's

research includes studying the effects of the female hormones estrogen and progesterone on hippocampal seizures. Women with epilepsy tend to have an increased frequency of seizures at various points in the menstrual cycle. Previous research in the field has demonstrated that progesterone acts as an anticonvulsant and that estradiol (a common form of estrogen) acts as a proconvulsant in the hippocampus. A recent study by Dr. Woolley, published in the Journal of Neuroscience, showed that while estradiol does increase susceptibility to seizures, it also reduces the duration and thus severity of seizures by increasing release of neuropeptide Y, an anticonvulsant. This research may lead to novel anticonvulsant therapies in the treatment of epilepsy. Dr. Woolley's research has been published in numerous prestigious science journals and is funded by multiple grants from the NIH. In addition to various other awards and fellowships, Dr. Woolley was a 2008 recipient of a Pioneer Award from the Institute for Women's Health Research.

Useful Links and Resources:

- <http://www.epilepsyfoundation.org/>
- <http://www.epilepsy.com/info/women>
- <http://www.ninds.nih.gov/disorders/epilepsy/epilepsy.htm>
- <http://www.cdc.gov/epilepsy/>

Upcoming Conferences/ Symposiums

Northwestern University's 16th Annual Cancer Survivors Celebration and Walk: June 7, 2009, Grant Park, Chicago
• <http://www.cancer.northwestern.edu/walk/>

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