

## Clinician's Corner

### Seizures and Hormones in Women With Epilepsy

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Seizure exacerbation related to a woman's menstrual cycle is known as catamenial seizures and is observed in about 70% of women with epilepsy. Though not an uncommon phenomenon, the research is just beginning to uncover some answers.

We know that the basis for catamenial seizures is due to the opposing effects of female reproductive hormones on brain excitability. Estrogen lowers a woman's seizure threshold, while progesterone has antiseizure effects. It is the fluctuation of these hormone levels that cause the brain to either become excited (increased levels of estrogen) or to oppose seizure activity (increased levels of progesterone).

There are three patterns of catamenial seizures:

In a woman with normal ovulating menstrual cycles, seizures may be reported at or around the start of her menstrual period (1), or right before ovulation (2).

A woman with anovulatory cycles, where hormone levels remain suppressed throughout the second half of the menstrual cycle, may report an increase in seizures from mid-cycle to the start of her next cycle (3).

Currently, there is no FDA-approved hormone therapy for seizures in women, however a few small clinical trials and observations support the idea that hormone treatment may help regulate seizures in some women. For example, with cyclic hormone therapy, natural progesterone (not synthetic progestin) has been reported to lower seizure frequency. Suppressive hormone therapy uses intramuscular injections of DepoProvera<sup>®</sup> (a contraceptive) and has been associated with a one-third reduction in seizure frequency. There are drawbacks to suppression therapy however, because normal ovulatory cycles may not resume for months or even years after a woman stops the therapy. Consequently, seizure management may be problematic due to anovulatory cycles. Some common side effects of hormone therapy include sedation, depression and spotting.

Future research is necessary to help develop better treatment options for catamenial seizures. Variables that limit the usefulness of the current research include too few study participants, lack of control subjects to compare results to, and unblinded treatment of study participants. An upcoming issue of Epilepsy USA magazine will discuss the topic of catamenial epilepsy in more detail. Also, more information on current research of catamenial epilepsy can be found at [www.clinicaltrials.gov](http://www.clinicaltrials.gov)