Epilepsy and Women’s Health

Seizures and the Menstrual Cycle
For some women, seizure frequency can be connected to hormonal changes during the menstrual cycle. This is called Catamenial epilepsy. With this type of epilepsy, the majority of seizures happen more frequently at certain times of a woman’s menstrual cycle. Women who notice a connection between their menstrual cycle and seizure frequency should discuss this with their doctor, as there may be treatment options available to improve seizure control.

Birth Control Pills
Some anti-seizure medications can reduce the effectiveness of birth control pills, and birth control pills can in turn affect the effectiveness of some anti-seizure medications. Ontario’s Epilepsy Implementation Task Force recommends that physicians avoid prescribing “enzyme inducing anti-seizure medications” to women using birth control pills. These medications include Phenytoin, Phenobarbital, and Carbamazepine. If you are taking anti-seizure medications and birth control pills, talk to your doctor about your options to maximize efficiency of both drugs.

Pregnancy
- The vast majority of women with epilepsy will have healthy pregnancies and healthy babies.
- Women with epilepsy whose seizures are well controlled are likely to remain seizure-free during pregnancy.
- Women with epilepsy who smoke while pregnant are increasing risk of premature contractions, premature labor and delivery.
- In 2014, the safest epilepsy medications for pregnancy appear to be Lamotrigine and Levetiracetam, according to the latest review of the North American Pregnancy Registry.
- Prior to pregnancy, women should work with their health care provider to achieve the best seizure control possible with the fewest number and lowest dose of anti-seizure medication(s) needed.
- Some women may be tempted to stop taking their epilepsy medication once they find out they are pregnant. However, people with epilepsy should never stop taking medication without first consulting their doctor. This could result in an increase in seizures, which could harm the mother or baby.
**Tips**

- Work with your doctor to aim for seizure freedom before attempting to become pregnant.
- Work with your doctor to simplify your medication regimen, aiming for monotherapy (managing seizures with one medication) at the lowest dose possible.
- Using folic acid (1-5 mg/day) is highly recommended for women thinking of pregnancy, starting before conception.
- Your doctor should monitor your anti-seizure medication levels more often throughout pregnancy.
- Your doctor should monitor you closely for complications in your pregnancy.
- If you smoke, it is best to quit smoking if you intend to become pregnant.
- For most women with epilepsy, breastfeeding is recommended and safe.

**Menopause**

- If you are at risk of osteoporosis, work with your doctor to avoid the group of medications called “enzyme-inducing” anti-seizure medications. This group of anti-seizure medications can increase the rate of fractures.
- If you take an enzyme-inducing anti-seizure medication, get screened for osteoporosis regularly.
- Take Vitamin D and Calcium supplements daily.

*Disclaimer:* This material is intended to provide basic information about epilepsy to the general public. It is not intended to, nor does it, constitute medical advice. Readers are warned against changing medical schedules or life activities based on the information it contains without first consulting a physician.

Adapted from: Provincial Guidelines for the Management of Epilepsy in Adults and Children (Epilepsy Implementation Task Force); Epilepsy in Pregnancy: A Fine Balance, Dr. Esther Bui (Epilepsy Toronto)
VI. Guideline for Management of Women with Epilepsy with Special Focus on Pregnancy

A management plan for women with epilepsy (WWE) should address issues related to pregnancy, contraception, and menopause. The following information outlines the basic principle of epilepsy management in WWE.

Oral Contraception

In the general population, failure rate of oral contraception (OC) is between <1 to 7 %. There is evidence of increase failure rate in WWE taking enzyme inducing AEDs (such as Phenytoin, Carbamazepine, Phenobarbital), as well as Topiramate (at higher doses than 200mg/day), and Oxcarbazepine. This has been studied particularly well with Carbamazepine (Davis, Westoff, & Stanczyk, 2011). Studies indicate that OC may reduce levels of Lamotrigine. Intrauterine devices do not appear to interact with AEDs.

Recommendations

1. Avoid the use of enzyme inducing AEDs, if possible (e.g. Phenytoin, Phenobarbital, Carbamazepine) in WWE using OC, transdermal patch and levonorgestrel implants

Pregnancy

During pregnancy there are risks associated with treatment as well as seizure recurrence. These risks involve the mother (patient) as well as the embryo/fetus.

Antiepileptic Drugs (AED) during pregnancy (Harden et al., 2009):

- Exposure to valproate or valproic acid is associated with midline birth defects including spina bifida (6-10%), autism-spectrum disorder, as well as lower verbal IQ in children of mothers exposed during pregnancy.
- There is increased risk of birth defects with polytherapy with AED (when compared with monotherapy).
- There appears to be an associated risk of facial clefts with Topiramate (Hunt et al., 2008; Margulis et al., 2012).
- According to the latest review of the North American Pregnancy Registry, the safest medications appear to be Lamotrigine and Levetiracetam (Margulis et al., 2012) but this may change in the future depending on the findings from different national pregnancy registries.
- Preconceptional folate decreases the risk of midline birth defects and low IQs in the offspring of WWE.
- There is insufficient evidence to determine if the risk of neonatal hemorrhagic complications in the newborns of WWE taking AED are substantially increased (Harden et al., 2009).
- AED levels may decline during pregnancy due to changes in the volume of distribution. This is particularly seen with Lamotrigine and Phenytoin.
Seizure Recurrence

- WWE whose seizures are well controlled are likely to remain seizure-free during pregnancy (84-92%)
- There is some evidence of increased risk of premature contractions and premature labor and delivery in WWE who smoke.
- There is not strong evidence of an increased risk of caesarean delivery in WWE taking AEDs (Harden et al., 2009).

Recommendations
1. Treating physician should aim for seizure freedom prior to pregnancy
2. Simplify regimen to monotherapy at the lowest dose, if possible
3. Use of Folic Acid 1-5 mg/day is highly recommended, starting pre-conceptionally
4. Determine AED levels during each trimester of pregnancy. If possible, obtain two serum concentration levels before pregnancy when the seizures are well controlled. This can be used as a reference range during pregnancy. More frequent monitoring is suggested if the patient has difficult to control seizures or is sensitive to change in dose/concentrations, and with Lamotrigine or Oxcarbazepine (Patsalos et al., 2008)
5. Monitor closely for obstetrical complications
6. Encourage smoking cessation in WWE
7. Use of Vitamin K prior to delivery is not routinely indicated
8. Breastfeeding is not contraindicated

Menopause

There is evidence that the use of enzyme inducing AEDs increase the rate of fractures (Brodie et al., 2013).

Recommendations
1. If possible, avoid enzyme inducing AEDs in persons with epilepsy at risk of osteoporosis
2. Daily use of Vitamin D and Calcium supplements
3. Screening for osteoporosis should be done in those taking enzyme inducing AEDs on a regular basis