

Epilepsy and Contraceptives

What should I know about birth control and epilepsy?

There are many choices available to women with epilepsy for effective birth control (also called contraceptives). Hormone-based oral contraceptives (called OCs or "the pill") are used most often to prevent pregnancy. These usually contain forms of both estrogen and progesterone, so are called "combination pills". There are also forms of OCs that have only progesterone. Other birth control choices deliver hormones in different ways, usually over a longer time period, for example a patch, an injection, an implant placed under the skin, an intrauterine device or IUD, or a vaginal ring.

However, there are some important points to consider.

- AEDs that increase the ability of the liver to break down hormones (called enzyme inducing AEDs) can increase the risk for the contraceptive not working. The result can be an unintended pregnancy.
- Although lamotrigine [Lamictal] does not affect how well the birth control works, the level of lamotrigine can be lowered by OCs. This could lead to breakthrough seizures or a change in side effects.
- There are some longer-acting forms of birth control than OC or pills to prevent pregnancy.

Which seizure medications (AEDs) may DECREASE the effectiveness of OCs?

- Carbamazepine (Tegretol, Tegretol XR, Carbatrol, Equetro)
- Clobazam (Onfi)
- Eslicarbazepine (Aptiom)
- Felbamate (Felbatol)
- Lamotrigine (Lamictal) at doses of 300 mg daily or more
- Oxcarbazepine (Trileptal)
- Phenobarbital
- Phenytoin (Dilantin)
- Primidone (Mysoline)
- Rufinamide (Banzel)
- Topiramate (Topamax) at doses of 200 mg daily or more

If you are taking one of these medications:

- Ask your health care provider about the effect of your seizure medication on contraception.
- Use a birth control pill with at least 50 micrograms of ethinyl estradiol (estrogen). Avoid low dose formulations of birth control pills.
- Use a barrier form of contraception in addition to an OC, like a condom, diaphragm, or sponge.
- Consider long-acting forms of contraception that are not affected by seizure medicines, such as IUDs, hormone injections (Depo-Provera), or an implant. Talk to your OB/GYN about these choices.
- If depomedroxyprogesterone (Depo-Provera) injections are used, give them more frequently, such as every 10 weeks instead of the usual 12 weeks.

Epilepsies and Contraceptives (continued)

Which seizure medications DO NOT affect OCs?

Many seizure medicines do not interact with birth control pills (OCs), because they do not affect the breakdown of OCs in the body. These medicines are often called "non-enzyme inducing AEDs". If you are taking one or more of these medicines, the risk for unintended pregnancy is not any more than it would be for a woman not taking a seizure medication.

- Acetazolamide (Diamox)
- Clonazepam (Klonopin)
- Clorazepate (Tranxene)
- Diazepam (Valium)
- Divalproex, valproic acid, sodium valproate (Depakote, Depakene)
- Ethosuximide (Zarontin)
- Gabapentin (Neurontin, Gralise, Horizant)
- Lamotrigine (Lamictal) at doses less than 300 mg daily
- Lacosamide (Vimpat)
- Levetiracetam (Keppra)
- Lorazepam (Ativan)
- Pregabalin (Lyrica)
- Tiagabine (Gabitril)
- Vigabatrin (Sabril)
- Zonisamide (Zonegran)

If you are taking one of these medications:

- Make sure your health care teams knows what medicines you take.
- Usually no extra form of contraception is needed along with a birth control pill.
- Tell your doctor or nurse if there is any change in seizures or how you are feeling.

How do contraceptives work to prevent pregnancy?

OCs prevent pregnancy because they contain versions of the hormones estrogen and progesterone. OCs generally prevent pregnancy in the following ways:

- The estrogen prevents ovulation (release of the egg during the menstrual cycle).
- The progesterone produces thick cervical mucus that interferes with sperm movement. This may affect the sperm's ability to fertilize the egg. It also changes the lining of the uterus so it's hard for a fertilized egg to implant.

We don't know whether the estrogen or progesterone is more important in preventing pregnancy. Some seizure medicines can affect one or both of these because of the way they affect the liver. (*Some liver enzymes are important in how the body breakdowns medicines*). For example, felbamate reduces the progesterone in birth control and topiramate lowers the estrogen. Lamotrigine may reduce a type of progesterone called levonorgestrel.

What other forms of contraception are available?

There are many other choices for birth control, other than hormone-based pills or OCs. The methods that are NOT affected by enzyme-inducing seizure medicines and their known failure rate include:

- Levonorgestrel IUD (Mirena) - 0.1%
- DMPA (Depo-Provera) injections - 0.3%
- Copper IUD (ParaGard) - 0.6%
- Condom **with** spermicide - 4-6%
- Condom **without** spermicide - 14%
- Contraceptive sponge - 13 - 16%
- Diaphragm **with** spermicide - 20%
- Female condom - 21%

Epilepsies and Contraceptives (continued)

Do any seizure medications interact with birth control?

A special situation occurs with lamotrigine (Lamictal). Lamotrigine blood levels are lowered by 50% when hormonal oral contraceptives are also used. If you are taking lamotrigine and a birth control pill (or any birth control with hormones in it), pay attention to these steps.

- Track your seizures carefully and tell your health care team of any change in seizures when birth control is started.
- Talk to your epilepsy team about when you should have blood levels of lamotrigine checked. They may need to be checked during certain times of the month and before or after a hormonal contraceptive is used.
- When a birth control is stopped, tell your health care team if any side effects occur. The level of lamotrigine may increase after a hormone-based birth control is stopped.
- Keep appointments with your epilepsy team to be checked for medicine interactions or side effects.
- To keep good seizure control and avoid side effects, the dose of lamotrigine may need to be adjusted at times. For example, the level of lamotrigine may be too high with the placebo or pill-free week of an OC, and drop down when the active OC is taken.

Summary:

With these important cautions, birth control pills (OCs) or other forms of contraception, can be used to prevent pregnancy by women with epilepsy taking seizure medications. The risk for change in seizures is low when women know about possible interactions, which contraceptives to use or avoid, and other ways to manage their epilepsy and contraception.

Reviewed by: Kristine Ziemba MD | Gender/Women's Issues Topic Editor on 5/2015

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