
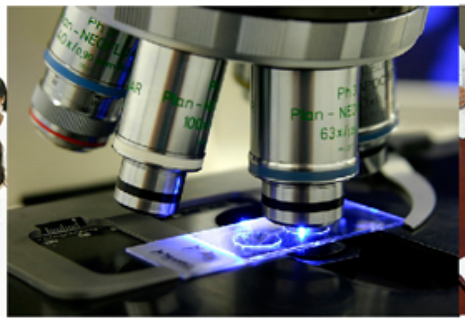


Women's Health Research Institute
Putting Women's Health Research First

May 2013

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Related Blogs

More Women Using IUDs

Hormone Related Depressions

Women with Neurologic Conditions need Specialized Care

Dear Friends,

Did you know that certain medications used to control chronic diseases could interact with the effectiveness of your birth control pills? This month, our E-newsletter will focus on medications used to treat common neurologic and psychiatric conditions in women and how they influence the absorption of contraceptives. A special thanks to our friends at the Women's Neurology Center at Northwestern Medicine for our feature article.

We also invite you to learn more about two public events the Women's Health Research Institute is hosting this month during National Women's Health Week (May 12-18). On May 14 we will sponsor a special forum in Chicago, followed by an event in the Illinois Capitol in Springfield, Illinois the next day. Please read below for details on both events.

Sincerely,

The Institute Staff

Your Brain and Your Birth Control

You may never have thought that there would be a connection between your brain and your birth control, but there are several neuropsychiatric medications that can interact with birth control pills and other forms of hormonal birth control. These

interact with birth control pills and other forms of hormonal birth control. These medications, which are used to treat seizures, headaches, mood disorders, and even to promote weight loss, can make choosing an appropriate form of birth control difficult. It is important that you are aware of these important interactions and ask your physicians and pharmacists about them.

What neuropsychiatric medications might interact with my birth control pills?

Carbamazepine (Tegretol, Carbatrol), Oxcarbazepine (Trileptal), Phenytoin (Dilantin), Phenobarbital, Primidone (Mysoline), Felbamate (Felbatol).
These anti-seizure medications are used to treat patients with epilepsy and are also used to treat some mood disorders, pain syndromes and tremors. They are known as "enzyme-inducing" anti-epileptic medications because they can increase the rate that liver enzymes clear the body of drugs and other toxins. The most commonly prescribed birth control pills include synthetic estrogen and progesterone-like drugs. Blood levels of both the estrogen and progesterone component can be decreased by these "enzyme-inducing" drugs. If you are on any of these medications you may need an alternative form of birth control.

Topiramate (Topamax, Qysmia)
Topiramate is a widely used medication with multiple indications including seizures, migraines, cluster headaches, and diabetic neuropathy. It was also recently approved as a weight loss drug in combination with phentermine (Qysmia). Topiramate can also increase the activity of liver enzymes. Studies have shown that topiramate in higher doses (more than 200 mg/day) may decrease levels of ethinyl estradiol, a synthetic estrogen in oral birth control pills. Although studies of lower-dose topiramate have not shown a significant effect of hormone levels, the World Health Organization recommends against combining topiramate at any dose and birth control pills due to a risk that the pills will not provide adequate contraception.

Modafinil (Provigil)
Modafinil is used in the treatment of narcolepsy to promote wakefulness. It is also used to treat shift work sleep disorders in patients who work late shifts at night. Modafinil, like enzyme-inducing anti-seizure medications, can also affect certain liver enzymes that break down oral contraception. Several studies have shown that levels of ethinyl estrodiol were decreased when oral birth control was used with modafinil, thus reducing the effectiveness of birth control.

Lamotrigine (Lamictal)
Lamotrigine is prescribed by neurologists to treat patients with seizure disorders and by psychiatrists to treat bipolar disorder. It is one of the most commonly prescribed drugs for women of childbearing age with either of these conditions because it is associated with much lower rates of teratogenesis (birth defects) compared with other drugs. The interaction between lamotrigine and oral birth

control is different than the interactions described above. In this case, birth control pills actually lower lamotrigine levels and can lead to a loss of seizure control if doctors don't adjust the dose of lamotrigine when the birth control pill is started. Whether a similar loss of efficacy can be seen in bipolar patients treated with lamotrigine and birth control pills is an area of active research. Women can also experience various side-effects of lamotrigine during the week of oral contraceptive placebo pills.

Another important consideration for patients taking lamotrigine and birth control pills is that lamotrigine can decrease the levels of synthetic progesterone, which may decrease the efficacy of the contraceptive; therefore, caution is advised when using birth control pills as the only form of contraception in women with epilepsy. Using an extended cycle (no placebo week) contraceptive pill may improve efficacy and minimize side-effects.

Are there problems with other forms of contraception?

Vaginal Ring and Contraceptive Patch
The vaginal ring and contraceptive patch also contain both synthetic estrogens and progesterones which are released into systemic circulation. This type of hormonal contraception has similar interactions as combined birth control pills and are not recommended as a reliable form of contraception for patients taking any of the medications discussed earlier.

Progesterone-only Pills
The progesterone only pills, known as "mini pills" are not recommended for patients taking most of the drugs listed above. The enzyme-inducing medications as well as modafinil cause the liver to clear synthetic progesterone faster. The World Health Organization also advises against using these pills with topirmate. Lamotrigine may also decrease the efficacy of progesterone pills because it can decrease synthetic progesterone levels by 20%.

Etonogestrel subdermal implant (Implanon)
The etonogestrel subdermal implant is a single rod of a synthetic progesterone that is inserted just under the skin of the upper arm. All of the enzyme-inducing drugs listed above can decrease the efficacy of this implant. Topiramate, Modafanil and Lamictal may also decrease efficacy.

Medroxyprogesterone (Depo-Provera)
Medroxyprogesterone (Depo-Provera) is a hormonal injection that is typically given every few months for birth control. This medication contains progesterone which may also be cleared more quickly by any of the medications listed above. As opposed to the subdermal implant which is a fixed dose, the dose of medroxyprogesterone can be adjusted and it can be given more frequently if needed. Thus it is sometimes possible to use Depo-Provera with some of the above neuropsychiatric medications. The dosing needs to be supervised by a physician who understands the interactions and any abnormal bleeding may indicate the contraceptive effect is not working. You should talk to your gynecologist to see if this is possible.

Intrauterine device (Copper, Mirena)

The intrauterine device (IUD) is a T-shaped device containing either copper or progesterone that is inserted into the uterus. The IUD is a very effective form of birth control and has minimal interactions with all medications. The progesterone-containing IUD has a local effect on the uterus and cervix and is not thought to be affected by other medications.

How can I assure that I don't become pregnant?

If you are taking medications for any neurologic or psychiatric disorder, you should talk to your physicians about your safest birth control choices. You may want to consider using a second barrier method of contraception such as a diaphragms, spermicidal creams, or condoms. An intrauterine device may be a good option because of its minimal drug interactions.

Avoiding an unplanned pregnancy is especially important if you are taking a neuropsychiatric medication which may affect the outcome of a pregnancy. Keep in mind that even in the general population, there is always a risk of unintentional pregnancy despite the correct use of contraception. You should always talk to your doctor about whether he or she would recommend you continue your medication when you plan to become pregnant. This depends on the risks of the drug and the severity of your condition. If the risk related to the medication you are taking during pregnancy to control your neurological conditions is significant you may want to consider changing to a drug with lower risk. In the meantime, you will need to work with your general practitioner, gynecologist, neurologist or psychiatrist to choose the form of birth control that is most appropriate for you.

Northwestern Medicine has three Women's Specialty Clinics that provides expert advice on this topic:

- The Women's Neurology Center
- The Asher Center for Research and Treatment of Depressive Disorders
- The Complex Contraception Clinic

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References:
Gaffield, Mary E. The use of hormonal contraception among women taking anticonvulsant therapy. Contraception. 2011 Jan;83(1):16-29. doi: 10.1016/j.contraception.2010.06.013.

Robertson P, Jr., Hellriegel ET, Arora S, Nelson M. Effect of modafinil on the pharmacokinetics of ethinyl estradiol and triazolam in healthy volunteers. Clin Pharmacol Ther. 2002;71:46-56.

Winner B, Peipert JF, Zhao Q, et al. (May 2012), "Effectiveness of long-acting reversible contraception", N. Engl. J. Med. 366 (21): 1998-2007, doi:10.1056/NEJMoa1110855, PMID 22621627

HEALTH TIPS

Always tell all of your physicians what types of medications you are currently taking (bring the bottles with you, or take pictures of the drug information label with your smart phone)

Use a back-up method of birth control any time you feel that your hormonal contraceptive may have been rendered less than effective
Always follow **FDA guidelines** when disposing of your old prescription medications

INSTITUTE HAPPENINGS

Come join us at our third annual Celebrating Women's Health event on **Tuesday, May 14th** (11:00 AM to 1:30 PM) at Prentice Women's Hospital! Click here for more information and to register.

UPCOMING EVENTS

May 4, 2013 - 7:15 am
Overview of Neurology from a Feminine Perspective

May 14, 2013 - 11:00am
Celebrate Women's Health Week at Northwestern

May 15, 2013 - 9:00am
Springfield Celebrates National Women's Health Week

Forward email