

## FROM THE DIRECTOR

Women with epilepsy have added concerns other than those of their male counterparts. These apprehensions generally focus on childbearing and real or perceived possible complications due to seizures. Additionally, prescribing contraceptives that are often compromised by antiseizure medications can challenge physicians of female patients with epilepsy. These, and other questions that may test the OB/GYN charged with their care are presented in the following article. If you provide consultation and treatment for women's health, menopause, infertility, obstetrics, genetics, gynecology and urogynecology, adolescent gynecology, gynecologic oncology, and other reproductive conditions, I believe you will find Dr. Laban's communication worthy of note and valuable.

**Marcelo Lancman, M.D.**  
Medical Director

## WOMEN'S ISSUES - SERIES 1: Contraception in Epilepsy

**Dr. Olga Laban**

In the United States nearly one million women of childbearing age have epilepsy. They represent a particularly challenging group for physicians. Optimal care of women with epilepsy frequently requires a multidisciplinary approach including the primary care physician, obstetrician-gynecologist, neurologist/epileptologist, pediatrician, nurse, social worker and occasionally a genetic consultation. A well-informed patient is always the most valuable member of this team.

The management of contraception in women with epilepsy is of particular importance. Unwanted pregnancies in women with epilepsy increase both fetal and maternal risks. The first case of oral contraceptive failure in association with use of antiepileptic drugs was reported in 1972 and the interactions between antiepileptic medications and contraceptives are well documented. Still, this is the topic that frequently remains omitted from patient-physician discussion. A study in 1996 documented that the lack of physician awareness significantly contributes to this issue. In fact, only 4% of neurologists and no obstetricians were able to identify effects of commonly prescribed antiepileptic medications on oral contraceptives.

Mechanisms by which antiepileptic medications may decrease the efficacy of steroid contraceptives includes an increase in hepatic metabolism by induction of the hepatic cytochrome P450 system

and induction of the production of sex hormone binding globulin. Antiepileptic medications that induce the cytochrome P450 system include Carbamazepine, Phenobarbital, Primidone, Phenytoin, Oxcarbazepine (in doses over 1200mg) and Topiramate (in doses over 200mg per day). These medications accelerate the unplanned pregnancy. Phenobarbital, Primidone, Phenytoin and Carbamazepine induce the production of the sex hormone binding metabolism of estrogen and progesterone reducing their availability by up to 50% and increasing the likelihood of globulin decreasing the concentration of free progesterone. This causes a decrease in the suppression of ovulation and again increases the chance of pregnancy. Felbamate treatment also resulted in a significant decrease in gestodene and breakthrough intermenstrual bleeding. It is possible that the contraceptive efficacy of low-dose combination oral contraceptives may be adversely affected during felbamate treatment.

Contraceptive failures have been reported during the use of oral contraceptives as well as in levonorgestrel implants. The effectiveness of medroxyprogesterone (Depo provera) remains unclear. Contraceptives with higher estrogen concentration (over 50ug) or additional forms of contraception were recommended in the American Academy of Neurology guidelines in 1998. However, contraceptives with higher estrogen concentration are also associated with higher morbidity. When appropriate, the choice of antiepileptic medications that does not interact with oral contraceptives should be favored. Antiepileptic medications that do not interact with contraceptives include Gabapentin, Lamotrigine, Levatiracetam, Tiagabin, Valproate and Zonisamide.

Sex hormones on the other hand may alter the metabolism of antiepileptic drugs. Lamotrigine levels were reduced by oral contraceptives by two to three times. A suggested mechanism was the acceleration of hepatic glucuronination of lamotrigine. Isolated reports suggested an increased number of seizures in women on estrogen contraceptives and amelioration of seizures in patients on progestin containing contraceptives especially in women with catamenial epilepsy. The majority of studies however did not confirm this association. Nevertheless, this topic should be discussed with patients and all decisions should be made on individual basis whether the dose of antiepileptic medications should be adjusted.

The interaction of antiepileptic medications and contraceptives should always be discussed during the consultation with the patient. Special attention should be focused on the increased risks of pregnancy due to these interactions.

# CALENDAR OF EVENTS

## NORTHEAST REGIONAL EPILEPSY GROUP

### FACULTY

#### EPILEPTOLOGISTS

Marcelo E. Lancman, M.D., Director  
Christos C. Lambrakis, M.D., Associate Director NY  
Salah Mesad, M.D.  
Olgica Laban, M.D., Associate Director NJ  
Nilay Shah, M.D.  
Jeffrey Politsky, M.D.  
Megdad Zaatreh, M.D.  
Gregory Taylor, M.D., Ph.D.

#### NEUROPSYCHOLOGISTS

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Gonzalo Vazquez-Casals, Ph.D.  
Charles Zaroff, Ph.D.

#### NURSES

Lillian D. Cassarello, MSN APRN  
Sabrina Cristofaro, RN (Hackensack Hospital)  
Susan Seeger, NP (Overlook Hospital)

#### EDUCATION DEPARTMENT

Ann Marie Bezuyen, Director  
Tina Conneely, Director of Employment Advocacy

#### OFFICE PHONE NUMBERS

##### NEW YORK

White Plains.....914.428.9213  
Manhattan .....212.661.7460  
Middletown.....845.695.6884  
Fishkill .....845.897.0011  
Staten Island.....718.876.2105  
Bronx .....718.655.6595

##### NEW JERSEY

Hackensack .....201.996.3205  
Summit .....908.522.4990

### PATIENT EDUCATION PROGRAMS - NEW YORK

**March 24th - 8:00 AM-12:00 PM** • Ramada Inn, 1289 Route 300, Newburgh, NY 12550

**April 21st - 8:00 AM-12:00 PM** • Hilton Garden Inn, Hudson Rooms B&C  
270 Route 59 West, Nanuet, NY 10954

**May 19th - 8:00 AM-12:00 PM** • Richmond University Medical Center, MLB Conference Room  
355 Bard Ave., Staten Island, NY 10310

**June 23rd - 8:00 AM-12:00 PM** • Our Lady of Mercy Medical Center Conference Rooms A&B  
600 East 233rd Street, Bronx, NY 10466

**September 8th - 8:00 AM-12:00 PM** • White Plains Hospital Auditorium  
Davis Avenue at East Post Road, White Plains, NY 10601

### HISPANIC PROGRAM

**October 20th - 8:00 AM-12:00 PM** • Our Lady of Mercy Medical Center Conference Rooms A&B  
600 East 233rd Street, Bronx, NY 10466

### PATIENT EDUCATION PROGRAMS - NEW JERSEY

**June 9th - 8:00 AM-12:00 PM** • Overlook Hospital, Wallace Auditorium,  
99 Beauvoir Ave., Summit, NJ

### SUPPORT GROUPS FOR ADULT PATIENTS WITH EPILEPSY & THEIR CARETAKERS

**The 2nd Wednesday of every month - 6:30 PM** • Walkkill Medical Arts Building  
390 Crystal Run Rd., Suite 101, Middletown, NY 10941

**The 1st Thursday of every month - 6:30 PM** • White Plains Hospital Center Medical Library  
Davis Avenue at East Post Road, White Plains, NY 10601

**The 2nd Thursday of every month - 6:30 PM** • Overlook Hospital, The Atlantic Neuroscience  
Institute Conference Room, 99 Beauvoir Ave., Summit, NJ 07902

### TEEN SUPPORT GROUP

**The 4th Tuesday of every month - 7:00 PM-8:00 PM** • Walkkill Medical Arts Building  
390 Crystal Run Rd., Suite 101, Middletown, NY 10941

### PARENT GROUP

**The 4th Tuesday of every month - 7:00 PM-8:00 PM** • Walkkill Medical Arts Building  
390 Crystal Run Rd., Suite 101, Middletown, NY 10941

**Call Ann Marie at 845-695-6885 for more information or to register for a group or  
educational program.**

### SUPPORT GROUP FOR SPANISH-SPEAKING ADULT PATIENTS WITH EPILEPSY

**The 1st Friday of every month - 6:30 PM-7:30 PM** • 104 East 40th St., Suite 607, NY, NY  
(between Park & Lexington Avenues)

**Contact Darlennys to register: 212-661-7460**

## Northeast Epilepsy Group

333 Westchester Avenue  
Suite E104  
White Plains, NY 10604

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