

GREETINGS FROM OUR EDITOR-IN-CHIEF



ON MY MIND

Epilepsy Awareness Month

November again is epilepsy awareness month, stimulating reflection on this very distressing disorder; on the progress we have made and how far we have to go.

Epilepsy remains the most prevalent serious disorder that is able to affect people across the full spectrum of ages. Epilepsy is not as common as stroke or dementia, but epilepsy can strike during childhood, mid-life and the senior years. Approximately one of every hundred people will have epilepsy, defined as a condition of spontaneously recurrent seizures. At least 5% of people will have at least one seizure in their life; though not all of these go on to become epilepsy. We have over 20 medications available to treat epilepsy, in addition to vagus nerve stimulation and a variety of surgical procedures. Despite this impressive arsenal, which is larger than those for many other diseases, about 1 of 3 people with epilepsy continue to have uncontrolled seizures, or unacceptable toxicity of medications used to treat their seizures. The answer for these people lies in research.

Research requires support. In the US, the main funding engine for medical research is the National Institute of Health (NIH), which provides research grant funding for basic scientists and clinical researchers working on health problems. Despite the benefits of the Decade of the Brain, funding for epilepsy research is not sufficient to the needs. Epilepsy research received about \$105 million in 2007 (<http://www.nih.gov/news/fundingresearchareas.htm>). This is a large absolute amount of money, but small in comparison to NIH funding of \$20 billion research dollars for 2007 or \$1.3 billion for all neurological (NINDS Institute) research. Other organizations, such as the National Science Foundation, Howard Hughes Foundation, the Klingenstein Foundation, the Epilepsy Foundation, the American Epilepsy Society, the CURE Foundation, and many others, including our own organizations, the Epilepsy Therapy Project and FACEs, make vital additional contributions, often igniting lines of research that are too new to draw support from NIH.

Why this mismatch between importance of epilepsy and its relative scarcity of funding? No one really knows the answer to this question, but several contributing factors apply. One is the centuries-old stigma that still attaches to epilepsy. Although epilepsy has great individual spokespeople, it has never achieved the overall star power of other poster diseases. Another reason is a relative scarcity of researchers devoted to epilepsy. We need to encourage bright young researchers to choose epilepsy as a research field. These researchers, who are the future of medicine, need to know that studying seizures will be intellectually rewarding, satisfying in terms of helping people and capable of securing support. In addition, we need to fund the most innovative ideas of experienced researchers. These are key goals of the Epilepsy Therapy Project.

MARK YOUR CALENDAR

Upcoming epilepsy-related conferences, symposia, and events include:

Nov 5 - 8 pm ET

[The Study That Can Unlock the Mysteries of Epilepsy](#)
[Epilepsy Talk Radio](#)

Nov 5-Nov 8, 2008

[5th Latin American Congress on Epilepsy \(ILAE & IBE\)](#)
Montevideo, Uruguay

Dec 5-Dec 9, 2008

[AES 2008 Annual Meeting](#)
Seattle, WA, USA

Mar 24-Mar 28, 2009

[Jasper's Basic Mechanisms of the Epilepsies Workshops](#)
Yosemite National Park, CA, US

When the time is right to do so, please make your patients and their families aware of these points. Epilepsy is common. Epilepsy is important. Epilepsy is underfunded. The effects can be devastating. If they (or you!) can help, that is great! [Please go here](#), call (540) 687-8077 x2 or write to info@epilepsytherapyproject.org.

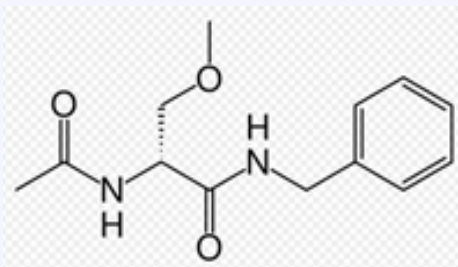
As you think of epilepsy month, think how you can help and inform, and also how the Epilepsy Research organizations can help you. Sometimes, this will take the form of start-up research funding, at other times, help for a conference or collaborative projects. The Epilepsy Therapy Project would be happy to hear from you to learn the needs of the research community and the factors that impede advances. Not all or even most of them will be solvable with scarce resources, but some may be. It is November - think, talk and write about epilepsy.

WHAT'S NEW?

1. A new epilepsy medicine, lacosamide, recommended for approval in the US and Europe.

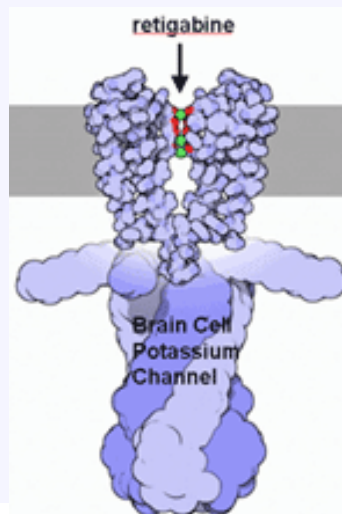
From news sources: Lacosamide, brand name Vimpat™, was recommended for approval in the United Kingdom and Germany on September 3, 2008, and for the US on September 29. Vimpat™ is produced by the company UCB Pharma, Inc, a company that also makes Keppra™. Such approval is a prelude to medication becoming available in pharmacies for use by prescription. Lacosamide soon will be available as an add-on treatment of partial onset seizures

with or without secondary generalization in people with epilepsy, aged 16 years (Europe) or 17 years (US) and older. Lacosamide has a mechanism of action different from all other currently available antiepileptic drugs. The drug acts on sodium channels, which affect excitability of brain cells. Other medications, such as phenytoin (Dilantin™) and carbamazepine (Tegretol™) also act on sodium channels, but on a different aspect of the channels. Lacosamide also acts on a protein in brain cells called collapsin response mediator protein-2 (CRMP-2), which affects long-term growth of nerve cells. The medication comes in the form of an oral tablet or syrup, to be given twice a day in daily doses ranging from 200 to 600 mg, and also as an intravenous injection. Recommended starting dose is 50 mg twice a day, with slow buildup to a full dose. Specific details about use will be available in the package insert by time of drug availability in pharmacies. Studies of the safety and tolerability of lacosamide come from three clinical trials in over 1300 patients with seizures. Over half of the people in the trial had significant improvement in their seizures, above and beyond the improvement from their baseline ongoing antiepileptic medications. The most common side effects were dizziness, nausea, double vision and headache. Fainting has occurred on the medication and caution is advised for people with cardiac rhythm problems. Approval for using lacosamide to treat pain was not granted by the European regulatory authorities. Availability of lacosamide to treat epilepsy is targeted in the US for early 2009.



2. Retigabine, a new epilepsy drug, gets financial support for its development.

From News Sources. Retigabine is an anti-epilepsy drug with a novel mechanism of action related to blocking certain neuronal potassium channels. The company sponsoring retigabine, Valeant Pharmaceuticals, Inc., got a financial shot in the arm from the giant pharmaceutical company, Glaxo, which invested \$125 million in development of the drug. This will hopefully bring retigabine closer to a point where it can be available to people with epilepsy. The sponsoring companies plan to seek Food and Drug Administration approval and European marketing approval by early 2009.



3. Report of eslicarbazepine clinical trials.

From News Sources: Eslicarbazepine, brand name Zebenix™, is a new epilepsy drug, related to carbamazepine (Tegretol™) and oxcarbazepine

(Trileptal™). Discovered in 1996, it may have fewer drug interactions than do carbamazepine and oxcarbazepine. Sepracor, Inc. announced results from three Phase III (late development stage) clinical trials. Among people whose seizures previously were uncontrolled, seizures were reduced on average by more than a third. Side effects in the trials seemed relatively minimal. Application for eslicarbazepine acetate was submitted to the European regulatory authorities in March of 2008 by its developer, Bial - Portela & Ca, S.A., a Portuguese pharmaceutical company. Another company, Sepracor, Inc. of Massachusetts has acquired rights for commercialization of eslicarbazepine in the United States and Canada.

Elger and Associates
Epilepsia 2007;48:457

■ Eslicarbazepine acetate QD (n=50)
■ Eslicarbazepine acetate BID (n=46)
□ Placebo (n=47)

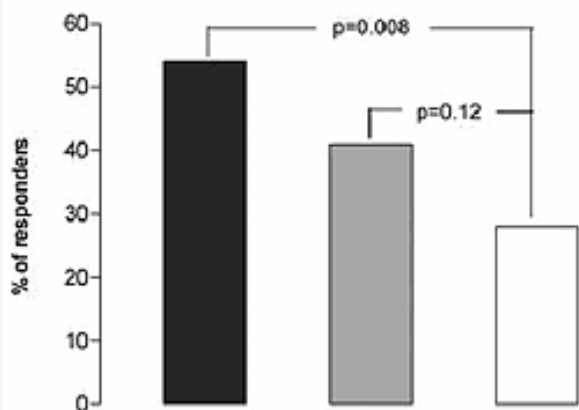


FIG. 3. Proportion of responders by treatment group (ITT population, 143 patients).

4. Improvements in memory after temporal lobe epilepsy surgery.

Published article: Baxendale S, Thompson PJ, Duncan JS. Improvements in memory function following anterior temporal lobe resection for epilepsy. *Neurology*. 2008; volume 71; pages 1319-25.

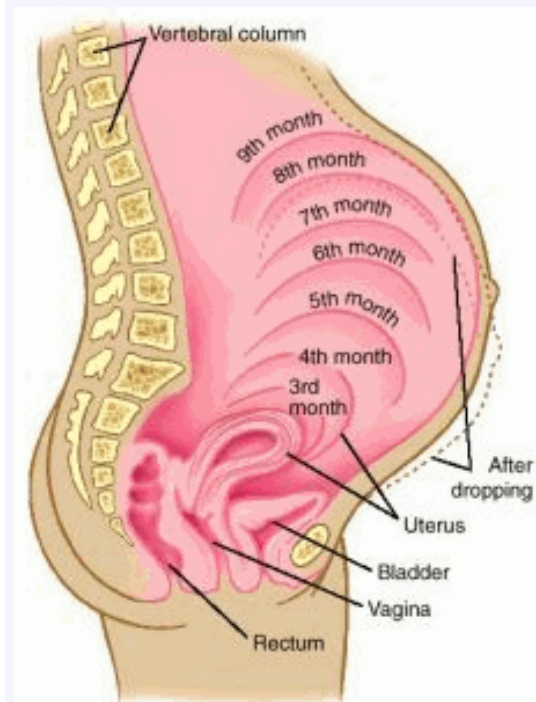
Faulty memory is one of the most common complaints voiced by people with epilepsy. Memory difficulties results from a combination of factors, including seizures that disrupt memory formation circuits in the brain, negative effects of some seizure medicines on memory and underlying injuries to the brain that can cause both seizures and memory problems. Patients who are thinking of having epilepsy surgery to help their seizures may wonder, will this also help my memory? The usual answer to this question up to now has been no, but a new study from the National Hospital at Queen Square in London suggests that the answer may sometimes be yes: memory can improve.

The study was done on 230 patients with hippocampal sclerosis. The left temporal lobe, which is more usually involved with word and number memory, was involved in 132 patients. The right temporal lobe, which typically mediates visual memory, was involved in 105 patients. Postoperatively, 22% of people with right temporal lobe surgery and 9% of people with left temporal lobe surgery showed improvement in memory with their partial temporal lobectomy. Those with shorter durations of epilepsy tended to improve more. Previous experience from



several studies has suggested that secondary improvement in memory may result from successful surgery if surgery eliminates or reduces numbers of seizures and therefore allows reduction in seizure medications. Other individuals, however, have a decrease in declarative memory function after epilepsy surgery. A post-surgical memory decrease may recover after a few months, but sometimes the decrease in memory is lasting. So now we have a study with a little more optimism, raising the possibility that epilepsy surgery sometimes makes memory better, and not always worse or unchanged.

5. Risks of antiepileptic drugs during pregnancy.



Published article: Meador KJ, Pennell PB, Harden CL, Gordon JC, Tomson T, Kaplan PW, Holmes GL, French JA, Hauser WA, Wells PG, Cramer JA and HOPE Work Group Collaborators. Pregnancy registries in epilepsy: a consensus statement on health outcomes. *Neurology*. 2008;71:1109-17.

The Epilepsy Therapy Project established the HOPE group, standing for Health Outcomes in Pregnancy and Epilepsy, comprising nine international groups with input from six pregnancy registries. A consensus view of HOPE was published in the September, 2008 issue of the journal *Neurology*. The article points out that about 25,000 children are born each year to women with epilepsy. Most children are born normal, but about 4.5% born to women taking one antiepileptic drug (AED) have a birth defect. This compares to 8.1% for women taking more than one AED and to a background population birth defect rate of 1.6-2.1%. Birth defects can include minor or sometimes major problems with heart, face, fingers,

genitals, bones or brain. Much of the increased risk for birth defects in children of women with epilepsy comes from effects of AEDs on the fetus. However, women with epilepsy should not stop their AEDs before or during pregnancy, without having detailed discussions with their seizure doctor and obstetrician. The article recommends using the minimum therapeutic regimen that is able to control serious seizures.

It is hard to specify a single "best" AED during pregnancy. The article reviews data collected from six pregnancy registries, with over 20,000 enrolled pregnancies. Because the groups using one drug versus another are not always comparable in terms of seizure characteristics and other health factors, registries only give clues to problem drugs, not proof. Treatment with valproic acid or phenobarbital during pregnancy appeared potentially problematic. The malformation rate with valproate varied in different registries from 6.2 - 13.3%. The rate with phenobarbital was approximately 6% for malformations, but an earlier study suggested additional risk for lower intelligence in the offspring when phenobarbital was used during pregnancy. Malformation rates with carbamazepine ranged from 2.2 - 4.0%, and with lamotrigine from 1.4 - 3.2%. Individual cases of cleft lip and cleft palate occurred with carbamazepine or lamotrigine. Numbers of pregnancies with single drug therapy with other AEDs was too low for firm conclusions.

Although not part of the article, it is worth remembering this: women with epilepsy who are planning to have children should plan ahead and optimize medications before pregnancy. Potential mothers should confer with their doctors about taking folic acid (folate), a vitamin that may reduce the risk for birth defects.

TAKE A LOOK

New Educational Videos: The staff of *epilepsy.com* believes that different people prefer different forms of media for education, and as many as possible should be available to help educate about epilepsy. This month, we are introducing to the *epilepsy.com* consumer site 23 new educational videos about topics in epilepsy, written by myself, Dr. Robert Fisher, and Dr. Orrin Devinsky, produced by FullTurn Media,

sponsored by the Chairman of the Epilepsy Therapy Project, Warren Lammert. Dozens of other excellent educational videos have been available on the site, but it has been hard to find them. This month, we are initiating a reorganization of navigation to the videos. Clicking on the videos button on the homepage will now take the reader to a table of contents of videos group by subjects. Over the next few months, we will add links to other portions of the website. The person reading, for example, about epilepsy surgery in the "Epilepsy 101" text-based portion of the website will then be able to jump easily to several videos discussing epilepsy surgery. Please take a look at the videos, and if you feel so moved, provide feedback, comments for improvement and possible topics for future videos in the forum section of the website. And direct your patients to watch them - they have to do something while sitting around in your waiting room!

Epilepsy Therapy Project at AES: Once again, the Epilepsy Therapy Project will be an active participant at the AES Annual Event: Dec. 5 - 9th in Seattle. Please join us in the activities below.

1. Visit our exhibit booth during Exhibit Hall hours.
2. Attend the Hoyer Reception and Lecture on Friday, December 5th: 2:45 - 5:00 p.m.
3. Come to the Translational Research SIG meeting on Sunday, December 7th: 7:30 - 9:00 p.m. Coordinators are Thomas P. Sutula, M.D., Ph.D. and Warren Lammert, the Chair of ETP. Speakers will provide an overview of intellectual property (IP) concepts and will discuss how to work with IP firms and university tech transfer offices. The meeting will explore sophisticated database tools to understand and define intellectual property issues relevant to a research area or project.

Patient Safety Handout: Both seizures and the treatment of epilepsy entail certain risks. Part of our job as physicians is to warn patients of those risks and help to minimize them. Discussion is the best way, but it is very time consuming and since the list of possible risks is long, the take-home message sometimes is forgotten. Hence a role for a patient safety handout. Here is one (derived from a prior epilepsy.com letter) that you can hand out in your office to your patients and their families. It might be wise to document that you did so in the medical record. Feel free to modify the text to your own needs and use it in any way desired. We ask that the original sources be credited, but otherwise the safety sheet is free copyright and available for any clinical or educational use.

Robert Fisher, MD, PhD
Editor-in-Chief





THE FRUIT COMPANY®
Orchard Fresh Gifts Since 1942

FREE GROUND SHIPPING FOR THE HOLIDAYS!
Order from 11/9 – 12/2 for guaranteed delivery by Christmas!

15% of profits from ALL GIFTS ordered online go to the  **epilepsy therapy project**



Family-owned for over 65 years, The Fruit Company® has been proud to ship the World's Finest Fruit Gifts to homes throughout the nation. Much of the fruit that goes into our gifts is grown right here in Hood River, Oregon by us, our friends and our neighbors. The same can be said for our unrivaled selection of gourmet goodies, from **award-winning hand-milled cheeses** to luscious, rich **chocolates and cakes**. All of these come together in exclusive hand-woven baskets and boxes adorned with watercolor art painted by a local Northwest artist. We insist on nothing but the very finest for all our gifts, guaranteeing that everyone from Oprah (she loves our pears!) to your favorite aunt will be thrilled.

From November 9th to December 2nd we're offering **FREE GROUND SHIPPING*** for all gifts to be delivered from 12/1/08 to 12/29/08 for the holidays. Not only that, but we're donating 15% of proceeds from our gifts directly to the Epilepsy Therapy Project. [Click here to get your shopping done early](#), get a deal and support a wonderful cause!

WE NEED YOUR HELP

epilepsy.com/Professionals is building a resource section of useful practice tools for the professional community. If you have a form, patient information sheet, or other useful handout for patients with epilepsy, and you'd like to share it with thousands of your colleagues by adding it to the **resource section of epilepsy.com/professionals**, please email it to info@epilepsytherapyproject.org or fax it to (540) 687-8066, and we'll take it from there. Thanks!!

ABOUT THE EPILEPSY THERAPY PROJECT



The **Epilepsy Therapy Project** is a 501 (c) (3) not-for-profit corporation. The organization was founded by parents of young children with epilepsy, along with their children's doctor, a leading researcher and clinician in the field of epilepsy. Our mission is to advance new treatments for people living with epilepsy.

The Epilepsy Therapy Project is also the sponsor of ***epilepsy.com*** and ***epilepsy.com/professionals***. We are working to build ***epilepsy.com/professionals*** into the most comprehensive source of information, tools, and interchange available online for patients, practicing neurologists, and for the research and therapy development community.

To learn more about our programs, please visit us at: www.epilepsy.com/epilepsy_therapy_project.