Issues for Seniors with Epilepsy

by Sherrill Purves, MD, PhD, FRCP
Dr. Purves is a member of the BC Epilepsy Society's Professional Advisory Committee, and has a neurology practice in North Vancouver where she also works at Lions Gate Hospital

Seniors (in this article we are considering individuals over 60 years as seniors) have an increased incidence of epilepsy. In individuals between the age of 25 and 50 there are about 25 new cases per 100,000 people per year, but after 50 years the incidence rises with increasing age from 70 per 100,000 per year in the 55 to 60 year group, and 150 per 100,000 after 70 years. In most cases these are partial seizures (which means that they start in one area of the brain) with or without progression to a generalized tonic-clonic seizure. The period of confusion or weakness after the seizure (called the post-ictal state) tends to be longer in the older individual than in younger people. This increased incidence of epilepsy in seniors is due to the increased frequency of brain conditions such as strokes (cerebrovascular accidents) and degenerative diseases of the brain such as Alzheimer's disease with increasing age.

Epilepsy is characterized by the tendency to recurrent seizures. Seizures are a transient alteration in behaviour and can appear in many different ways. The BC Epilepsy Society website has more information about the different kinds of appearances of seizures. The diagnosis of epilepsy can sometimes be quite challenging in seniors because in this age group people may have spells for other reasons. Some testing and observation may be required to determine if the spells are seizures, TIAs (transient ischemic attacks) or confusional spells due to a dementing illness.

It is easier to make the diagnosis of epilepsy when the first spell is a generalized tonic-clonic seizure (also called a grand mal seizure) with stiffening and loss of consciousness. These patients usually end up the emergency room and get some further testing quickly. A first seizure can be the sign of an underlying brain condition such as a hemorrhage, stroke, or infection that will require immediate treatment. In all cases, it is important to prevent further seizures so an antiepileptic drug (AED) will usually be started immediately. Tests such as CT scan, MRI, EEG, and blood work will look for underlying causes.

If the likelihood of further seizures is considered to be high, then the doctor will prescribe an AED to be taken after leaving the hospital. This medication acts to prevent the abnormal electrical activity in the brain that leads to a clinical seizure. The goal is to be on a medication with minimal side effects that will prevent further such events.

The treatment of epilepsy in seniors presents some unique challenges: Injuries caused by seizures in the elderly may be more severe because their bones and tissues are not as strong. Post-ictal confusion can go on long enough that the person doesn't eat or drink or move for many hours and this is problematic in someone living alone. The loss of driving privileges that result from having a seizure is a serious blow to independence at any age, but it is often not as easy for the elderly to start using public transportation as it might be for younger persons.

There are also age-related changes in the way the body handles antiepileptic medications, and there is a great deal of potential for drug interactions with other medications being taken for blood pressure, hypercholesterolemia and pain. See below for more details with

inside

each AED. Seniors are also more sensitive to the side effects of AEDs because of a slowed metabolism and an older brain, and it may take different trials to determine which drug will work best for a given individual.

The medication most commonly prescribed for all ages is phenytoin (Dilantin). This drug has the advantage that it can be started in the emergency room, where patients often end up after their first seizure. It can be given in a loading dose, so that it's immediately effective, although it will take 10 days on the daily dose prescribed before the level becomes steady. However, this drug can lead to poor balance and slowed thinking, particularly when the level is on the higher side of the therapeutic range. It can also often slow function in a patient who has other neurological deficits from brain injury such as a stroke or recent brain surgery. Some patients complain of slowed cognition and depression on this drug but there are many who feel just fine while taking it.

The most important pathway for drug metabolism among the AEDs is the hepatic cytochrome P450 enzyme system (CYP).

The most important pathway for drug metabolism among the AEDs is the hepatic cytochrome P450 enzyme system (CYP). The common AEDs: phenytoin, carbamazepine, and phenobarbital (often called the older AEDs because they have been in used for more than 40 years) are all enzyme inducing because they cause this P450 system in the liver to become more active. These three enzyme-inducing AEDs, can cause other drugs such as some of the cholesterol lowering drugs[1], or birth control pills, or blood thinners to be cleared out of the body faster. The action of these AEDs also results in the body getting rid of vitamin D faster, which can increase the risk of osteoporosis in sensitive patients. When a patient is taking multiple medications, it is very important to ask the pharmacist or doctor about what important interactions may be occurring, and find out what modifications are required.

Another issue is the absorption in the stomach of multiple medications taken simultaneously. Calcium, which is widely taken to prevent osteoporosis, will considerably impair the absorption of phenytoin if they are taken at the same time, so they must be taken hours apart, otherwise the phenytoin levels will be variable and often too low to prevent seizures.

If phenytoin is not working or is causing unacceptable side effects, there are several other AEDs for treatment of epilepsy in seniors.

Carbamazepine is quite similar to phenytoin with many of the same problems associated with its hepatic enzyme inducing properties. It has to be started quite slowly as patients will become dizzy if it is started at full dose suddenly. But some patients seem to have less cognitive slowing and balance with this drug than phenytoin, so if it is started slowly (it is usually not considered on an emergency room visit) it will be a reasonable choice. Also the side effects of this medication are of much shorter duration than phenytoin, as it does not last as long in the system. This can make the diagnosis of side effects easier and the dosage can be adjusted based on how the patient feels.

Phenobarbital is also effective and very long acting so it can be taken once per day. It has a sedating effect, which may be helpful for patients with anxiety or insomnia. However it also causes other medications to be less effective, increases osteoporosis, and can affect balance and cognition at higher doses so is not usually used in the elderly. It is least expensive of all the AEDs and is still used widely outside of North America and Europe, where it may be the only drug a patient can afford.

Valproate (Epival) is also effective for the elderly and is usually well tolerated. It is more effective for generalized seizures than partial seizures, and these are less common in seniors. It is not an enzyme-inducing medication but does have some drug interactions due to protein binding. The most important visible side effect in seniors is aggravation of preexisting tremor or the new appearance of intention tremor, but this disappears when the drug is stopped.

Gabapentin (Neurotin) is an AED that is widely prescribed for pain in seniors, and is valued because it is excreted through the kidneys and not the liver, so has very little interaction with other medications. However, it is a weak AED and at doses high enough to stop seizures it may make older patients too drowsy.

Lamotrigine (Lamictal) is one of the newer AEDs that is metabolized in the liver by other pathways, does not have much interaction with other medications, and does not cause osteoporosis. It is not sedating and may sometimes even cause insomnia. It has to be started quite slowly and carefully monitored initially because of a risk of allergic skin reactions in nearly 10% elderly patients[2]. Consequently it is not used very often but is one of the recommended drugs for the elderly in the more recent literature[3].

Clobazam (Fresium) is a mild AED with few interactions, but may cause sedation and diminished balance in susceptible patients and enhanced effect of other CNS depressants such as alcohol.

Topiramate (Topamax), oxcarbamazepine (Trileptal) and levetiracetam (Keppra) are three more of the newer AEDs that may have a place in treatment of seizures in the elderly. They are all quite expensive compared to the ones discussed above. Topamax is an enzyme inducer but effective at low doses. Oxcarbamepine does not induce the common enzyme pathway so has fewer interactions. Levetiracetam, has the advantage of being excreted through the kidneys like gabapentin and thus has no interactions with other medications. It can also be started rapidly and is usually well tolerated, but in a few patients leads to increased irritability. The experience with using this drug alone for seizure control is still limited. It requires special approval from BC Pharmacare and can only be approved if a patient has failed to tolerate a few of the more common AEDs.

The elderly get more injuries during seizures because their bones and tissues are not as strong as those of younger people.

In summary, epilepsy in seniors is a common and challenging condition to treat. The unique issues for this age group are:

1. Diagnosis: there are many spells that appear in the elderly that are not seizures.
2. The elderly get more injuries during seizures because their bones and tissues are not as strong as those of younger people.
3. The commonly used AEDs interact with many of the other medications that seniors are taking. This may make the other medications less effective and/or increase the side effects of the AED.
4. Seniors' metabolism is reduced so the AEDs are cleared more slowly and dosage adjustments may be required.
5. Seniors' brains are more sensitive to the side effects of AEDs if there are other conditions causing impairment.

Footnotes:

1. These are the statins or HMG-CoA reductase inhibitors class of medications. This interaction lowers the effectiveness of all of these except for Rovuvastin (Crestor) is the only one in this class not affected by phenytoin.
2. Product monograph for monotherapy in elderly individuals.
3. References:

Rowan AJ, Ramsay RE, Collins JF, et al. New onset geriatric epilepsy: a randomized study of gabapentin, lamotrigine, and carbamazepine. Neurology 2005; 64:1868–1873.

Patsalos PN, Perucca E. Clinically important drug interactions in epilepsy: interactions between antiepileptic drugs and other drugs. Lancet Neurol 2003; 2:473–481.

M.J.V. Pugh, PhD, RN, A. C. Van Cott, MD, J. A. Cramer, BS, J. E. Knoefel, MD, M. E. Amuan, MPH, J. Tabares, BA, R. E. Ramsay, MD, D. R. Berlowitz, MD, MPH. Trends in antiepileptic drug prescribing for older patients with new-onset epilepsy: Neurology 2008; 70: 2171-78.

New Board Member

With the departure from the Board of longtime Director Gavin McLeod, the Society's membership elected Carmen Ekelund as a new Director for a two year term. Carmen's expertise is fund raising, and the Board and staff look forward to working with Carmen to generate new funds in support of Society programs, resources, services, and research.

Epilepsy and Neuropsychology

by Dr. Sare Akdag, RPsych, Neuropsychology Service, BC Children's Hospital

Most people living with epilepsy do not experience serious problems with their thinking. However, there are aspects of thinking that can be affected by recurrent seizures and/or their treatments. This article focuses on the types of thinking problems most commonly seen in people living with epilepsy, why these problems may occur, and what can be done to minimize the impact of thinking problems on one's day-to-day life.

Our brains control thinking, behaviour, and emotions.

What is Neuropsychology?

Neuropsychology is a specialty area of psychology that focuses on thinking, learning, and behaviour and its relationship to the brain. Neuropsychologists often work closely with neurologists and other health care providers to identify how a neurological illness or injury may be affecting functioning in day-to-day life. Neuropsychologists use standardized tests to examine different aspects of thinking (such as memory, attention, and problem solving) and behaviour to better understand a person's individual profile of abilities and challenges (strengths and weaknesses). With this information, a neuropsychologist can indentify brain structures or systems that may not be working efficiently and make suggestions for treatments or supports that can help a person function at maximum capacity. A person living with epilepsy may be referred to a neuropsychologist if they are noticing problems with their ability to learn and remember information, pay attention and focus, finish projects, or express themselves clearly. It is also common for people who may have surgery to treat their epilepsy to have a neuropsychological assessment before and/or after their surgery.

Why are people diagnosed with epilepsy at risk for neuropsychological problems?

Our brains control our thinking, behaviour, and emotions. When a person has recurrent seizures, there is a chance that brain functioning may be disrupted and cause problems with the ability to process or remember new things, pay attention, control one's behaviour or reactions, and/or affect one's mood. When evaluating how seizures can influence one's neuropsychological function, several factors need to be considered:

1) The type and location of seizures in the brain. There are several different types of epilepsy syndromes and each can have a unique pattern of thinking difficulties associated with it. A person who has absence seizures is likely to have a different pattern of neuropsychological problems than a person who has temporal lobe epilepsy. Some epilepsy syndromes are considered relatively benign and have very little effect on thinking skills. Other types of epilepsy are more severe and are associated with more significant neuropsychological impairment.

   Our brains are highly organized and different brain regions are associated with different types of thinking abilities. Depending on where in the brain the seizures start and where they spread to, there can be problems with different types of thinking. For example, a person who has seizures in the left temporal lobe may have a different pattern of thinking problems than a person who has seizures coming from the occipital area of the brain.

2) The frequency and severity of seizures. People with more frequent and severe seizures or people who have seizures that are very long (status epilepticus) have a greater chance of experiencing changes in their thinking than people who have infrequent brief seizures.

3) Length of illness. The longer a person has been having seizures, the greater the chance of thinking difficulties. Seizures that begin in infancy are known to be particularly harmful to thinking abilities, in part because the brain is still developing and the seizures are affecting the way the brain develops. People who start having seizures in childhood are more likely to experience thinking problems than people who start having seizures as an adult. In general, the longer a person's brain can develop and be healthy before the seizures start, the less risk that the seizures will affect one's thinking abilities.

4) Medications. There are many different medications used to treat epilepsy, each with their own side effects. Some anti-epileptic medications are known to have specific effects on thinking. Most medications for epilepsy can cause drowsiness or slowed thinking. These problems are usually short-lived and go away on their own. It is important to talk with your doctor if you feel your medications are interfering with your ability to focus or think clearly.

5) The underlying cause of the seizures. People have seizures for many different reasons. Some people with epilepsy have subtle abnormalities in the way their brains are structured or the way their brains function. For others, seizures are the result of some kind of acquired brain injury (e.g. stroke, infection, head injury). The underlying cause of a person's seizures is the best predictor of the type and extent of thinking problems a person may experience. While seizures and medications can cause changes in thinking, most thinking problems associated with epilepsy are best explained by the cause of the epilepsy itself.

The majority of people diagnosed with epilepsy have seizures that originate in the temporal or frontal lobes of the brain.

What types of thinking problems are commonly experienced by people diagnosed with epilepsy?

The majority of people diagnosed with epilepsy have seizures that originate in the temporal or frontal lobes of the brain. These brain regions are responsible for many important aspects of thinking. For example, the temporal lobes are very important in the formation of new memories, whereas the frontal lobes help us regulate our thinking and behaviour. The frontal and temporal areas of the brain have strong neural connections that support communication between these two regions and with the rest of the brain.

Because the temporal and frontal lobes are often implicated in epilepsy, the most common thinking problems associated with epilepsy are thinking skills controlled by these areas of the brain. The following is a list of the five most common types of thinking problems associated with epilepsy, all of which are mediated by the frontal or temporal lobes of the brain:

1) Attention. Attention is a foundational neuropsychological function, mediated by the frontal lobes. Before one can process, learn, or respond to something, one must first focus and attend to it. Problems with attention can undermine all other aspects of thinking and learning. There is a high incidence of attention problems in people who have seizures. Attention problems are also a common side effect of anti-epileptic medications.

   There are many aspects to attention, but the aspects that are most relevant to epilepsy have to do with the ability to focus and concentrate on something while ignoring distractions (i.e. selective attention) and the ability to sustain focus and concentration over long periods of time (ie sustained attention). People with selective attention problems are likely to be easily distracted and have trouble ignoring non-relevant stimuli (e.g. ignoring a police siren when listening to a lecture). People with sustained attention problems tend to have trouble finishing longer tasks and can be prone to daydreaming (e.g. starting projects but not finishing them). As many as 40-60% of children with epilepsy have attention problems.

2) Executive Functions. Executive functions are a group of skills involved with regulating our thinking and behaviour. Executive functions guide our problem solving and decision making and are crucial for successfully managing more complex tasks or ideas. Skills that make up the executive functions include: organization and planning, self-monitoring, the ability to sequence, the ability to shift or switch ideas or plans if something is not working, the ability to persist or carry-through on something, and the ability to inhibit or stop oneself from doing or thinking something. As its name suggests, executive functions serve as the "executive" of the brain and allow us to be more efficient and effective thinkers.

   Executive functions are mediated by the frontal lobes of the brain. Like attention, problems with executive functions can undermine all other aspects of thinking, particularly more complex thinking. Executive functions develop slowly through childhood and are not fully developed until late adolescence or early adulthood. Thus, problems

with executive functions are not often recognized until a child is 8-10 years old or older. People with executive function problems may be impulsive, messy, lose track of their belongings, have trouble multi-tasking or working efficiently, procrastinate, or have trouble finishing projects. Problems with executive functions can result in reduced productivity or success in work situations.

People with epilepsy are at high-risk for executive functioning problems, particularly those who have seizures originating in the frontal lobes of the brain. Certain medications can also affect executive functions.

The most common thinking problem reported by people living with epilepsy is poor memory.

3) Learning and Memory: The most common thinking problem reported by people living with epilepsy is poor memory. The formation of a memory and the retrieval of information over time involve multiple areas of the temporal and frontal lobes. Problems with certain aspects of memory can result from disruptions to specific temporal or frontal brain areas.

   Learning and memory is a multi-staged process involving the (1) encoding of information, (2) storage of information, and (3) retrieval of information over time. A breakdown at any stage results in poor memory, but for different reasons. For example, problems with encoding or creating a new memory can result from inattention or problems with executive function. If a person did not focus on the information to be learned or could not process it efficiently, he or she is less likely to form an accurate or complete memory of the information. Similarly, disorganized thinking can greatly impede a person's ability to retrieve or recall previously learned information. Think of memory as a file cabinet: if the information is stored in a disorganized way, it makes it much harder to find it later when you need it. If a memory is not stored in a logical or organized way, it will be much harder to remember it accurately later.

   The middle stage of memory, the "storage" stage, is the stage when we take the new information we have just learned and file it away in our "file cabinet." This is the stage when we put information into our long-term memory. The ability to form long-term memories is controlled by a brain region called the hippocampus, which is found deep in the temporal lobe of the brain. There is one hippocampus in each brain hemisphere. The hippocampus in the left temporal lobe is responsible for forming language-based memories and the hippocampus in the right temporal lobe is responsible for forming picture-based memories.

   People with temporal lobe epilepsy are at risk for memory problems because temporal lobe seizures commonly involve the hippocampus or the areas immediately surrounding it. For people who have frequent or severe seizures in the temporal lobe, there might be damage to the hippocampus, making it more difficult for new long-term memories to be formed. If one hippocampus is not working well because of seizures, the other hippocampus is often able to compensate. Thus, it is rare for a person with epilepsy to have severe problems forming any new memories.

4) Speed of Processing: This refers to how quickly a person can process and absorb new information and respond to it. Recurrent seizures and seizure medications can slow a person's speed of processing. When processing speed is slowed, it can feel as if everything is on "fast-forward" and a person can have trouble keeping up. People with processing speed problems benefit from having things presented to them more slowly. They also benefit from repetition and review to ensure they have processed information fully. People with processing speed problems can also struggle to get their ideas out quickly and many need extra time to complete jobs or assignments.

5) Information Processing: Information processing refers to how people understand and make meaning of the information they hear or see. Broadly speaking, there is language-based processing (understanding language) and visually-based processing (understanding visual images). People with seizures in the left hemisphere of the brain are more likely to have language-based processing issues. They may have trouble understanding what someone is saying to them or struggle to use the right words to express themselves. People with seizures in the right hemisphere of the brain are more likely to have visually-

based processing problems, which can make it difficult for them to see patterns in designs or details in pictures.

What can a person with epilepsy do to minimize the impact of neuropsychological challenges on day-to-day functioning?

It is important that anyone living with epilepsy who is experiencing problems with thinking talk to their doctor. The doctor can attempt to sort out the possible reasons for the thinking problems. It may be necessary to undergo additional diagnostic procedures such as blood work, additional EEGs, or brain imaging. The doctor may also refer a person with thinking problems to a neuropsychologist. A neuropsychologist has specialized expertise to identify the nature and type of thinking problems a person may be having. The neuropsychologist can be very helpful in identifying strategies and interventions that can support a person's unique profile of neuropsychological strengths and weaknesses.

A neuropsychologist has specialized expertise to identify the nature and type of thinking problems a person may be having.

If a person is having mild-to-moderate problems with attention, executive functions, or memory, there are several adjustments one can make in daily life to support oneself. The following is a list of general recommendations. Some may be more helpful than others, as different methods may work for different people and different problems. These strategies only work if you use them. It may take longer to do things while you are learning how to apply new strategies.

Strategies for Supporting Attention and Executive Functions

- complete important work in a quiet, distraction-free place
- give yourself well-timed rest breaks after long periods of concentration
- have set start and stop times for work
- increase the structure in your environment and follow routines
- break big projects down into smaller parts and do a little bit at a time
- apply organization strategies (e.g. making lists, outlines) to structure your work habits
- give yourself extra time to get things done
- avoid multi-tasking

Strategies for Supporting Learning and Memory

- be active in your learning (visualize, write it out, repeat, review); don't assume you will remember something
- try to relate new information to something you already know; try to make it meaningful
- pace yourself: don't try to learn too much at once
- use mnemonic cues such as rhymes or acronyms to remember things
- keeps lists or a journal to remind yourself of important information

General Strategies for Optimal Thinking

- relax; reduce your stress
- get plenty of sleep
- eat nutritiously
- exercise regularly

Celebrate Our 50th Anniversary

2009 marks the 50th anniversary of the BC Epilepsy Society and you can help us celebrate by hosting an awareness or fund raising event. We can help you with your hosting needs by supplying resources for your participants or guests.

So whether you want to host a family and friends walk, bake sale, display at your local mall, we can help you get the word out about our Society.

Thank you in advance for thinking of us during our celebration year!

Our First Funded Researcher is Published

The Board of Directors and staff of the BC Epilepsy Society are proud to let you know that our first funded researcher, Dr. Veronica Schiariti, had her population health research published recently in the January 2009 issue of *The Canadian Journal of Neurological Sciences*.

Her article was titled, "Period Prevalence of Epilepsy in Children in BC: A Population-Based Study." This research focused on the prevalence of epileptic seizures and epilepsy in children and teens, and examined various factors influencing these rates.

This comprehensive study included data from all BC residents from 0-19 years of age enrolled in the Medical Services Plan.

These research findings will help determine the need for health care and to plan service delivery. A copy of her publication can be found in the news section of our website at: www.bcepilepsy.com/news_and_events/news01080901.aspx.

Dr. Schiariti's research was co-funded dollar-for-dollar by the Michael Smith Foundation for Health Research.

Michael Smith Foundation for **Health Research**

2009 Scholarships Available: Deadline April 30

The BC Epilepsy Society is offering $1,000 scholarships for post-secondary students living with epilepsy and attending education and training institutions anywhere in Canada.

You can get a scholarship application form by calling our staff at 604-875-6704 or from our website at www.bcepilepsy.com.

Eligible students must be BC residents and current members of the BC Epilepsy Society. There have been applications in the past few years that were considered ineligible because some students did not submit their membership form and $10 membership fee as required.

The deadline for application is April 30, 2009 and successful applicants will be notified by the end of May.

Easter Seal Camps and Zajac Ranch

Last year we subsidized the cost of sending 16 kids with epilepsy to the Zajac Ranch in the Fraser Valley. We also subsidized our first families to send their kids to any of the three Easter Seal camps across BC: at Shawningan Lake on Vancouver Island, at Squamish on the Sunshine Coast, and at Winfield in the Okanagan. We want to do more this summer.

Camper registration for all the Easter Seal camps is on a first come first served basis. Applications are being accepted starting in April. There are no fees to attend their camps, so we can help with a travel subsidy.

Your child will need to have a medical form completed prior to registration. These medical forms will be available in April for the Easter Seal camp office at camp@lionsbc.ca or 604-873-1865.

There will be a subsidy that families will have to pay if they want their child to attend the Zajac Ranch. Application forms are available at www.zajacranch.com.

Easter Seals British Columbia

ZAJAC RANCH
Out here we raise spirits.

Parent Education Day Scheduled for May

In collaboration with the neurology clinic team at BC Children's Hospital, we're hosting a Parent Education Day on Saturday, May 23 in the Chan Auditorium of BC Children's Hospital. The event starts at 9am and ends at 5pm.

Admission is $20 a person or $30 for both parents. Lunch and both coffee breaks are included with the admission fee. The registration deadline is May 15.

Topics will include treatments, developing brains, genetics, school and parent partnerships, transition to adult services, and impacts on the family. Our presenters include Doctors Linda Huh, Kevin Farrell, Mary Connolly, Bill Hamilton, and Michelle Demos.

Please go to our website at www.bcepilepsy.com or call any of our staff at 604-875-6704 for more information or to register. Space is limited.

BC CHILDREN'S HOSPITAL
An agency of the Provincial Health Services Authority

Infantile Spasms

What are Infantile Spasms?

They are a specific type of seizure seen in an epilepsy syndrome of infancy and early childhood known as West Syndrome. The onset is predominantly in the first year of life, typically between three and six months. The typical pattern of infantile spasms is a sudden bending forward and stiffening of the body, arms, and legs; although there can also be arching of the torso. Spasms tend to begin soon after arousal from sleep. Individual spasms typically last for one to five seconds and occur in clusters, ranging from two to 100 spasms at a time. Infants may have dozens of clusters and several hundred spasms per day. Infantile spasms usually stop at age five, but are often replaced by other seizure types. West Syndrome is characterized by infantile spasms, hypsarrhythmia (abnormal, chaotic brain wave patterns), and mental retardation. Other neurological disorders, such as cerebral palsy, may be seen in 30-50 percent of those with infantile spasms.

Is there any treatment?

Treatment with corticosteroids such as ACTH (adrenocorticotropic hormone) and prednisone is standard, despite the risk of serious side effects. Newer antiepileptic medications, such as vigabatrin have shown some efficacy. A small minority of children has secondarily generalized spasms as a result of cortical lesions (areas of damaged brain tissue). Removal of these lesions may result in improvement.

What is the prognosis?

The prognosis for children with infantile spasms is dependent on the underlying causes of the seizures. The intellectual prognosis for children with infantile spasms is generally poor because many babies with infantile spasms have neurological impairment prior to the onset of spasms. Spasms usually resolve with or without treatment by mid-childhood, but more than half of the children with infantile spasms will develop other types of seizures. There appears to be a relationship between infantile spasms and Lennox-Gastaut Syndrome, an epileptic disorder of later childhood.

Source: National Institute of Neurological Disorders and Stroke

Speaking of Epilepsy Lecture Series

Our annual lecture series will continue throughout 2009 following the Parent Education Day in late May.

We're planning a presentation on anti-epileptic medications for July, a research information day in September, and a lecture on women's issues in November.

All lectures are free to current members and $10 for non-members. Your membership expires each March and can be renewed annually. All lectures will be hosted in the Chan Auditorium of BC Children's Hospital.

If you have suggestions for presentation topics for the next series of lectures in 2010, please contact any of the Society staff with your ideas.

Cindy's 5K Poker Walk for Epilepsy: Sunday, May 31

Come out and join volunteers and staff from the BC Epilepsy Society as they participate in Cindy's 5K Poker Walk on Sunday, May 31st. The event is part of the annual Shaughnessy road race in Kerrisdale in Vancouver. The Walk starts at 8:30 sharp.

During the Poker Walk you will collect a playing card at each of the one kilometre points in the event and at the end you take your five cards to the BC Epilepsy Society tent at the finish line. The best poker hands will win great prizes from the Lions Gate Road Runners.

You can collect pledges in support of the programs, resources, and services of the Society. Please contact any of the staff in our office for details and pledge forms.

Breakfast is served to all the participants at the end of the Walk. Join us on May 31st.

Partners in Teaching

With feedback and support from community members and funders, the Partners in Teaching program continues to expand in reach and scope.

This public education program provides workshops and resources about epilepsy and seizures to school staff, students, childcare providers, and community organizations.

In 2008 we had a 73% increase in the number of workshops hosted from the previous year and over 1300 workshop participants. Workshops were presented to school districts and community organizations in northern Vancouver Island, the southern Okanagan, Quesnel, Nanaimo, the Sunshine Coast, as well as throughout the Lower Mainland.

Audiences included elementary, secondary, and post-secondary students, public health nurses, supported child development staff, Girl Guide leaders, community living support workers, as well as teachers, school support staff, and administrators.

Please contact Elvira Balakshin at outreach@bcepilepsy.com or 604-875-6704 for more information. We can contact schools or organizations to offer the Partners in Teaching workshop and resources on your behalf.

American Epilepsy Society Annual Meeting

In December, Kathryn and Elvira had the opportunity to take part in the American Epilepsy Society Annual Meeting. Funding for the trip was supplemented by a donation from BC Children's Hospital, which is further evidence of the support our organizations offer to each other, and the great relationship we have built over the last few years.

Kathryn and Elvira made the most of their four days at the conference, as part of an audience of thousands. They worked with our partners in the Epilepsy Foundation to staff their information table and distribute our resources, and took the opportunity to meet others who work in the field of epilepsy research, support, and education from all parts of the world. Besides the networking opportunities with such inspiring experts, they attended educational seminars from morning to night on topics including breakthrough research, social issues, and the effects of epilepsy in other cultures. Popular topics were new potential treatments, such as deep brain stimulation, women's issues, such as the North American Pregnancy Registry, and the relationship between seizures and sleep.

Kathryn and Elvira came home with a new appreciation of the epilepsy community around the world, and the part the BC Epilepsy Society can play in progress and education. If you'd like to find out more, please contact Kathryn at info@bcepilepsy.com.

Clinic Update

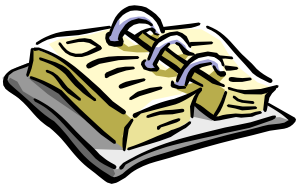
As families have settled into 2009 after the regular bustle of December, and the irregular snowfall in all parts of the province, Kathryn and Elvira have noticed a steady increase in visits to the BC Children's Hospital Neurology Clinic. With the increased visits, there's also been an increase in questions about Society resources. They enjoy being part of the team of doctors, nurses, and other specialists, and are happy to rise to the challenge.

Popular topics of conversation continue to include school resources for kids, driving for teens, and employment for young adults, but they're always kept on their toes by the occasional conversation about resources availability in other countries, or the logistics of helping a young man make a helmet that looks like a toque. In those cases, they do their best to answer questions, and come up with ideas, because they know quite well that life with epilepsy is never predictable.

It is through the clinic that they form the majority of their connections with families around BC, and therefore get the chance to contact them as events and opportunities arise, sometimes with very short notice. Whether they're handing out tickets to a Canucks game, organizing a trip to Disneyland, or lining up attendees for a full-day vocational camp for teenagers, the connections they make at BC Children's Hospital allow them to get into the community, and distribute these resources.

Adult Support Groups

We offer opportunities for people living with epilepsy, and their families and friends to get better connected and strengthen their support networks. People come together and talk about their issues and share experiences to better understand how to access services and resources and live a better life with epilepsy. Topics cover driving, parenting, medications, and anything else that participants need help with.



Comox Valley Group: Comox Valley Nursing Centre, 961 England Avenue, Courtney; Third Monday of the month, 7 pm. Phone Jackie at 250-338-1711.

Prince George Group: Second Tuesday of the month, 7-9 pm. Phone Gord or Karen at 250-596-6296.

Chilliwack Open Adult Group: Third Thursday of the month. Phone Richard at 604-795-3089 for times and location.

Lower Mainland Adult Group: #510 - 999 West Broadway, Vancouver; First Thursday of the month, 7-9 pm. Call for information at 604-875-6704.

Contact Elvira or Kathryn at the Society office if you'd like to join an existing support group. You can also contact our staff if you'd like to help start a new support group in your area.

Your Planned Gifts Support Society Programs

You have the opportunity to make a legacy commitment to the BC Epilepsy Society through your will and estate planning. You can designate your gift to support epilepsy research or any of our valuable services and programs.

We've prepared a new edition of our planned giving newsletter that you can review with your family and financial planner. We've also placed more detailed text in the Support Us section of our website at www.bcepilepsy.com/support_us/. This information will help you understand your gift planning options.

Planned giving supporters of the BC Epilepsy Society become members of The Auckland Society, which is named in honour of our Society's founder, Dr. Norman Auckland, and is our way of acknowledging your legacy commitment.

For more information about planned giving options in support of the BC Epilepsy Society, please contact Shawn Laari at the Society office.

Donate Your Shoppers Drug Mart Optimum Points

By donating your Shoppers Optimum Points to the BC Epilepsy Society, you'll help our Society purchase products and supplies that are available from Shoppers Drug Mart.

To donate points to our Society, please go online to: www.shoppersdrugmart.ca/donate and browse the Shoppers Optimum section. Then click on "donate your points." It's as easy as that.

Many supporters have donated their points already. Any number of donated points will be greatly appreciated. Thank you Shoppers Drug Mart for offering this great program!

In Celebration Gifts

You may be familiar with the practice of asking that a donation be made to a charity of choice rather than a gift of flowers at a funeral – in memoriam gifts. The same can apply to "in celebration" events: births, anniversaries, weddings, birthdays, graduations. We've even had people use summer BBQs as fund raisers for us.

The next time you have a special event in your family, please consider having gifts made as donations to the BC Epilepsy Society in recognition of that memorable family event. If you wish, the gifts can be designated to epilepsy research or one of our Society's programs.

Information on epilepsy and our Society is available for you to give to the donors at your special event. Please contact Shawn Laari at the Society office if you would like to support the BC Epilepsy Society through an "in celebration" event.

Our Website Adds Functions and Content

We've made more upgrades to our website since we updated you last fall. We've added new and updated information sheets, lecture videos, and other resources to the site. We've also added an RSS feed for blogs and events, social networking links, and a forward to a friend link.

www.bcepilepsy.com

We welcome your feedback on both the content and navigation. If you have suggestions, please contact Shawn Laari at laari@bcepilepsy.com.

Sign Up for Your Monthly E-Newsletter

If you're interested in subscribing to our new e-newsletter, go to www.bcepilepsy.com and click on Sign Up for Email News in the upper right corner. We now have almost 1,300 subscribers to our e-newsletter.

Since its inception, we've had offered topics as diverse as suites at Canucks games, camps, scholarships, lectures, new resources, and trips to Disneyland.

We present three topics each month, so there's always room for your suggestions.

Be a Part of Our Growing Team

Our memberhip base grew by 18% in 2008 and by 496% over the past five years. That was our fifth straight year of double digit membership growth. The more members we have, the more able we are to deliver needed programs, resources, and services. Anyone can join, whether you are living with epilepsy or not.

Please complete and return the attached membership/donation form if you would like to join our great team. If you've been a member in the past, please use the form to renew your membership, which expired at the end of our Annual General Meeting on March 23.

----------✂----------

BC Epilepsy Society

#510 – 999 West Broadway, Vancouver, British Columbia V5Z 1K5

604-875-6704 Fax: 604-875-0617 info@bcepilepsy.com

Charitable Tax Number: 11881 8541 RR0001 BC Society Number: 5749

Patron: The Honourable Steven Point, Lieutenant Governor of BC

Name: _____ Phone: _____

Email: _____ Fax: _____

Address: _____ City: _____

Province: _____ Postal Code: _____

❑ $10 Individual ❑ $50 Organization

I am including a donation of $ _____ Please charge me monthly ❑

❑ Cheque ❑ VISA ❑ MasterCard

Name on Card: _____

Card Number: _____ Expiry Date: _____

Signature of Cardholder: _____