

BC Epilepsy Society

Epilepsy and Memory

by Jing Ee Tan, Ph.D, R. Psych., Vancouver General Hospital

Spring 2014

Memory problems are a very common complaint of people living with epilepsy. This article outlines the kinds of memory problems that may be seen in different types of epilepsies; lists the possible causes of memory complaints; and provides suggestions to protect brain health, and helpful memory compensatory strategies.

Memory

Our memory system can be divided into different types. Procedural memory, which is also known as implicit learning, is unconscious learning like knowing how to ride a bicycle. It is unusual for people living with epilepsy to “forget” this type of memory.

Another type of memory is declarative memory. Declarative memory can be subdivided into semantic memory, such as knowing the meaning of words or facts about the world; and episodic memory, such as remembering recent conversations with your spouse or where you left your personal belongings. People living with epilepsy most commonly report episodic memory problems.

How does epilepsy affect memory?

The type and location of seizures in the brain affects learning and memory in different ways. Some people with epilepsy have a difficult time learning new information, whereas others forget information they recently learned. Memory problems are especially common in temporal lobe epilepsy.

The hippocampus is the brain structure involved in forming new memory. It is located in the temporal lobe. When the hippocampus is affected by seizures, information may be learned in the moment, but is quickly forgotten.

Frontal lobe epilepsy, on the other hand, shows a different pattern of memory difficulties. The frontal lobe functions like the executives in a company: it plans, organizes, and directs attention. People with frontal lobe epilepsy may have executive dysfunction. They have a harder time with focus and they are poor at organizing information. As a result, they show a pattern of learning inefficiencies. However, unlike those with temporal lobe epilepsy, they are able to retain information over time once they have learned it.

In addition to the type and location of seizures, there are other factors that may affect the memory functioning of those living with epilepsy. Anti-epileptic medications (AEDs) have a known impact on memory. Common cognitive side effects of AEDs include attentional problems, slowed processing speed, impaired learning/memory, and word finding difficulties. Research shows that the newer AEDs have fewer cognitive side effects than older AEDs.

Sleep problems are also common in those living with epilepsy. Chronic poor sleep affects alertness, learning, and memory. Sleep issues in epilepsy may be due to nighttime seizures, medication side effects or independent sleep disorders. Seizures occurring at night can disrupt sleep. Sleep deprivation may worsen seizures. The vicious cycle of poor sleep and worsening seizures continues.

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“Once depression is treated, subjective memory complaints usually go away.”

How does depression affect memory?

People living with epilepsy are also susceptible to mood disorders such as depression. Depression can result from having to deal with the limitations of living with epilepsy, but it can also be due to the chemical changes associated with epilepsy. Seizures arising from the temporal lobe cause emotional problems because the temporal lobe is part of the emotion circuit. When people are depressed, they may be preoccupied with their internal experience; their minds may be wandering and/or distracted by ruminative thoughts; and they may neglect to pay attention to the tasks at hand. Subjective memory complaints may also arise because people with depression are more likely to focus on everyday memory lapses that are also common in healthy individuals. As they selectively attend to memory losses, they notice more and more evidence of memory decline. Once depression is treated, subjective memory complaints usually go away.

Will surgery affect memory?

If the seizures are uncontrollable by medications, surgery may be considered. It is usual to expect some memory decline if the temporal lobe is operated on, although the severity of memory loss depends on each individual case. That is not to say that the patient will awake from surgery not remembering anything about their childhood or family members. The typical memory change is restricted to difficulty forming new memories. After temporal lobe surgery, patients may have trouble recalling recent conversations and events. Difficulty with route finding may be expected if the surgery took place in the non-dominant part of the brain. Interestingly, research suggests that seizure control and emotional health are most predictive of memory complaints. Emotionally healthy individuals, who achieved seizure freedom after surgery, are least likely to complain of memory problems even when there is objective evidence of memory changes.

Does memory worsen over time?

Experts have not agreed on whether seizures worsen memory over time. The research in this area has not been conclusive partly because there are many factors that can contribute to memory changes, including causes of seizures, frequency of seizures, chronicity of the seizure disorder, and AED use. It is generally felt that smaller seizures may not worsen memory, whereas a prolonged seizure lasting longer than an hour (known as status epilepticus) will. Some studies have examined this issue in older adults with chronic epilepsy. The researchers found that older adults who have been living with epilepsy have worse memory than healthy older adults, but their memory problems are not necessarily as bad as someone who has dementia. Poor seizure control and use of multiple AEDs generally increase the severity of memory impairment in older adults with chronic epilepsy. The long-term outcome of epilepsy surgery has not been reported in the scientific literature.

What can you do to protect brain health?

The current research shows that the best thing anyone with a neurological condition can do to protect their memory is to stay physically active. Physical aerobic exercise that gets your heart rate going, such as brisk walking, stationary biking, or running are excellent for promoting brain health. In general, just remember that anything that is good for your heart is also good for your brain. Whatever you choose to do, check with your physician prior to starting any exercise regimen, and ensure you practice seizure precautions.

Other factors are also protective of brain health. A healthy diet, comprised of fresh produce and foods high in anti-oxidants and/or omega-3 fatty acids such as nuts, berries, olive oil, and fish, is excellent for promoting brain health. Proper hydration and adequate sleep, as well as social and cognitive engagement are also important. Good sleep hygiene practices include 1) going to bed and waking up around the same time everyday, including the weekends, 2) avoiding caffeinated products before bedtime, 3) avoiding stimulating activities or conversations a few hours before bedtime, and 4) making sure the bedroom is dark, quiet, and cool enough for a good night's sleep.

What are some memory compensatory strategies?

- Smart phones have several useful functions: use the calendar to keep track of appointments, and alarm reminders for medications. The voice recorder function can also be used to quickly record shopping lists.
- Practice the method of loci: imagine a familiar location such as your living room. As you mentally walk around the living room, mentally place your grocery item on each piece of furniture in your living room. When you get to the grocery store, mentally walk through your living room in the same way and “retrieve” the items.
- Active learning: draw graphs or pictures; write notes/summaries as you read; make mind maps; make associations; repeat, repeat, repeat.
- Use mnemonics for names or create a story around the person using visual cues as well as unique features of the person; the richer the better. For example: when you meet a new person, create a relevant story in mind about the person’s name (“Tall Tom is the funny accountant with dark brown hair”).
- Identify one “memory” place for all personal items such as glasses, wallet, and keys.
- Complete important tasks in a quiet environment (e.g. turn off the radio or TV) to reduce environmental or visual distracters (e.g. cluttered workspace).

Regardless of the strategy you choose, the key to successful implementation of memory strategies is practice, practice, practice.

If you wish to know more about compensatory strategies specific to you, speak to your neurologist about referral to a neuropsychologist. A neuropsychologist has expertise in assessing thinking skills. When you undergo a comprehensive neuropsychological assessment, the neuropsychologist will be able to tease apart the various causes of your memory complaints and recommend treatment or compensatory strategies most appropriate for you based on your thinking strengths and weaknesses.

New Services Staff

We’re pleased to announce the appointment of Ms. Jas Lachar as our new Support Services Coordinator. Jas joined us in mid-February. She is a graduate of the social work program at Langara College.

Her main responsibilities include participation in the neurology clinic team at least one day a week at BC Children’s Hospital, delivering Partners in Teaching workshops across BC, and working with the new online support group.

Jas can be reached at services@bcepilepsy.com or by phone at 604-875-6704.

Camp Subsidies

If you have a child who’d like to attend a fully-accessible camp this summer, you have plenty to choose from, and we’ll help you with a subsidy towards your child’s camp fees.

Three Easter Seals camps are in Winfield in the Okanagan, in Squamish, and at Shawnigan Lake on Vancouver Island. Camp Eureka is also located in Squamish, and the Zajac Ranch is located at Stave Lake near Mission in the Fraser Valley.

This is the 10th year we’ve been able to provide subsidies to families. If you have any questions, please contact any of the staff at 604-875-6704 or at info@bcepilepsy.com.

Scholarships Available Again This Year

Once again the BC Epilepsy Society will be awarding scholarships to post-secondary students in BC living with epilepsy. These are for the 2014-2015 school year.

These \$1,000 scholarships will be awarded to students who are members of our Society and who complete the scholarship application form that is available on our website or through the Society office.

The deadline for application is June 13, 2014 and the recipients will be announced at the end of July. If you have any questions, please contact Shawn Laari at 604-875-6704.

“Regardless of the strategy you choose, the key to successful implementation of memory strategies is practice, practice, practice.”



Jaymie-Lynn
Robertson
Scholarships



Lieutenant-Governor to Lead Our Sixth Annual 5K Poker Walk

Come out and join volunteers and staff from the BC Epilepsy Society as they participate in our sixth annual 5K Poker Walk on Sunday, May 25th in Vancouver.

The Walk starts at the Kerrisdale Arena (5670 East Boulevard) at 8:30 am sharp. Breakfast is served to all participants at the end of the Walk.

Our Patron, the Honourable Judith Guichon, Lieutenant-Governor of BC, will once again be leading all the walkers at the start of the event.

During the Poker Walk you collect a playing card at each kilometre point 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 Lions Gate Road Runners.

You can collect pledges in support of the many programs, resources, and services of the Society. Please contact any of the staff in our office at 604-875-6704 for details and to get your pledge forms.

Our walkers collected over \$10,000 in donations for the 2013 Walk and we hope to exceed that total this May.

All walkers who collect over \$1,000 in donations will receive great prizes. You can register at www.lgrr.com/shaughnessy.



The walkers are all smiles in the sunshine knowing a big breakfast and great prizes await them at the end of the Walk.

Annual General Meeting Update

On April 7th, the BC Epilepsy Society hosted its Annual General Meeting (AGM) for the fiscal year ending December 31, 2013.

Cindy Devlin, Steven Fruitman, and David Ainsworth were elected to two-year terms on the Board of Directors.

Board Chair, Cyrus Irani, and Society Executive Director, Shawn Laari, reported on the accomplishments of the Society throughout 2013, highlighted by our being selected as the sole recipient of the BC Association of Broadcasters Humanitarian Award. They also reported on the growth in delivery of our programs and services across BC as well as the development of new resources for our stakeholders.

Our Treasurer, John Stiver, reported that our auditors, Sidhu Straker & Associates, had delivered a fiscal year end audit with no issues.

At the conclusion of the AGM, staff demonstrated all the new content and other features of our significantly upgraded website.

AGM

Thanks Government of BC

Once again the Ministry of Public Safety and Solicitor General of BC approved our annual application for a Community Gaming Grant.

Our 2013 grant for \$143,800 was one of our largest grants ever from the Ministry. We've received over \$1.9 million in grants since our first application 21 years ago.

Our grant was in support of our programs such as Partners in Teaching, the delivery of our annual lecture series, and the development of all of our hard copy and electronic resources.

Thank you for your trust in us.

Donate A Car Program

We've registered our Society with the Donate A Car Canada program, where people can donate a car to them in our name and we receive the cash donation after its sale.

Once you submit your vehicle information to Donate A Car, they will pick up your car at no expense to you. They will sell or recycle your used car and give a cheque to us. The BC Epilepsy Society will then issue a tax receipt to you. It's as easy as that.

You can find out more at www.donatecar.ca or contact Shawn Laari at the Society office.

Annual Lecture Series

2014 will be another great year for our annual lecture series, with both new and repeated topics being presented throughout the year.

New topics scheduled for this year include both the effects of epilepsy on memory and sleep issues for those with epilepsy.

We will host another lecture on issues specific to women living with epilepsy on April 29 and a lecture on anti-epileptic medications this fall.

All of these lectures will be scheduled in the evenings starting at 7pm. They usually last about an hour and a half including time for questions and answers. We anticipate that all lectures will be held at the Child & Family Research Institute at BC Children's Hospital.

Look for further details in our monthly e-newsletters. There is no charge for current members and a \$10 charge for guests of the Society.

Vancouver Marathon Giving

Our Society has been selected as a partnering charity with the May 4th BMO Vancouver Marathon RUN4HOPE program.

Participating runners in the full marathon, half marathon, and 8 km run, as well as the one kilometre run for kids, can add a charity component to their participation by collecting pledges for our Society. We can help you by providing fund raising tools and support.

Please consider collecting donations to help us deliver the outstanding programs, services, and resources that serve the more than 40,000 British Columbians living with epilepsy.

Contact Shawn Laari at the BC Epilepsy Society office for more details at 604-875-6704 x12 or at the event website www.bmovanmarathon.ca.

More Resources Translated into French

At the end of 2013 we completed the translation of nine more information sheets into French. We also edited several of the existing French information sheets.

With all of these new translations and edits, the BC Epilepsy Society continues to be the leading provider of epilepsy resources in both official languages in Canada.

These translations will provide families with complete resources in five languages: English, French, Punjabi, Chinese, and Korean. We also have resources in Vietnamese including a first aid poster that was recently edited.

If you would like to help sponsor the translation of our resources into Vietnamese, please contact Shawn Laari at 604-875-6704.



Speaking
of
Epilepsy

RUN4HOPE

épilepsie

New Targets for Treating Epilepsy: Novel Mechanisms and Emerging Ideas

by Stuart M Cain, PhD. Michael Smith Laboratories and Djavad Mowfaghian Centre for Brain Health, University of British Columbia, Vancouver.

“Controlling the excitable activity in groups of neurons that start seizures, the seizure focus, is a key target for epilepsy research.”

In the brain, nerve cells called neurons can be divided into *excitatory*; increasing the activity of other neurons they send connections (project) to, or *inhibitory*; decreasing the activity of other neurons they project to. *Hyperexcitability* (too much electrical activity) in the brain is thought to be the cause of many types of seizure.

Having too many excitatory neurons or alternately having over-active (hyperexcitable) excitatory neurons in a particular brain region could lead to seizures. Methods to suppress this over-activity, or ways to enhance inhibitory activity is what many research laboratories study in an attempt to find new and better therapies for treating epilepsy.

A change in the number of neurons in a particular area of the brain, or re-arrangement of the projections of already established neurons, can occur following damage to the brain, such as in a head injury or stroke. In some cases, this can promote the generation of seizures in a process known as *epileptogenesis*, as the damaged brain region re-structures and becomes hyperexcitable. Some new compounds with therapeutic potential in epilepsy may actually suppress this process, thereby preventing the development of epilepsy.

Rapamycin (Sirolimus), a drug already used clinically to suppress the immune system and prevent organ rejection in transplant patients, is effective at suppressing seizures in rodent models of temporal lobe and absence epilepsy (Buckmaster et al., 2009; Russo et al., 2013; van Vliet et al., 2012). This compound has many cellular functions that can alter neuronal growth, which may prevent the brain re-structuring that occurs during epileptogenesis.

Similarly, recent data indicates that a new drug called Z944 can also prevent the development of seizures in a rat model of acquired temporal lobe epilepsy (Casillas-Espinosa et al., 2013). Work in our laboratory previously showed that Z944 inhibits a process called *burst-firing* in neurons, which results from high levels of calcium entry into cells (Cain and Snutch, 2012; Tringham et al., 2012). Importantly, these burst-firing neurons have been observed during epileptogenesis (Becker et al., 2008). In addition, Z944 is highly effective at treating seizures in a genetically acquired rat model of absence epilepsy (Tringham et al., 2012). This compound has recently completed Phase I clinical trials, which is the earliest stage of human drug trials required for clinical use.

Controlling the excitable activity in groups of neurons that start seizures (the seizure focus) is a key target for epilepsy research. Another option is to target groups of neurons that are connected downstream from the epileptic focus, which spread the seizure.

Brivaracetam is a new drug therapy that is structurally related to the common clinically-used drug levetiracetam (Keppra). It has demonstrated positive results in patients with focal and generalized epilepsy in Phase III clinical trials, the latest stage of human drug trials (Kwan et al., 2014; Ryvlin et al., 2014). This compound is thought to work by inhibiting the release of neurotransmitters—chemicals used by neurons to signal to one another—and thereby reducing the spread of seizure activity (Kaminski et al., 2012).

Verapamil is a drug used for the treatment of several disorders (such as headaches and cardiovascular issues) by reducing calcium entry into cells; an effect known to cause hyperexcitability. It is currently being tested for use as an add-on therapy in refractory epilepsies with several positive results reported in epilepsy patients (Asadi-Pooya et al., 2013; Iannetti et al., 2009; Nicita et al., 2014).

Compounds found in cannabis (cannabinoids) and compounds synthesized from those found in the plant have generated interest in the search for new epilepsy therapies for several years. The human brain uses cannabinoid-like chemicals, called endocannabinoids, as neurotransmitters for signalling in some neurons. Since these endocannabinoids are generally considered to be inhibitory in their action, it follows that cannabinoids may have therapeutic potential in the treatment of epilepsy.

A number of isolated cannabinoids, including the primary psychoactive compound in cannabis, Δ 9-tetrahydrocannabinol (THC) and primary non-psychoactive compound cannabidiol (CBD), have shown encouraging results in treating seizures in animal models of temporal lobe and generalized convulsive epilepsy, as well as in epileptogenesis and febrile seizures (Hill et al., 2012; Hofmann and Frazier, 2013; Robson, 2014).

Despite this, only limited clinical trials have been completed in humans, and of those undertaken the results are still somewhat unclear. Four studies have been completed using CBD as a combined therapy with existing epilepsy medication. Three of these studies reported some reduction in seizures, although not conclusively (Hofmann and Frazier, 2013). But for some, marijuana derivatives may be harmful. In one study, multiple sclerosis (MS) patients who had previously been seizure-free reported suffering seizures following administration of Sativex; a cannabis extract containing THC and cannabidiol.

On an unusual note, in a veterinary case three pet green iguanas that inadvertently consumed large amounts of marijuana were found to display convulsive seizures, although all made a full recovery (Girling and Fraser, 2011). In addition, it should be noted that most of these studies have used cannabis extracts or synthetic cannabinoids administered orally and the effects of smoking marijuana on seizures is, at this stage, relatively unknown.

In summary, to date there are some encouraging signs that experimental compounds such as Rapamycin, Z944, Brivaracetam, and cannabis or cannabinoids may provide some seizure relief in epilepsy patients. However, the studies are still in early stages. More basic science and clinical studies are needed in this area before these agents are appropriate for application in people with epilepsy.

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“More basic science and clinical studies are needed in this area before these agents are appropriate for application in people with epilepsy.”

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Kids Up Front

The BC Epilepsy Society is starting its third year of partnering with Kids Up Front Vancouver, a charitable organization that provides access to arts, culture, recreation, and sports events for kids who otherwise would not have these opportunities.

Vancouver Canucks, Vancouver Giants, Disney On Ice, BC Lions, Vancouver Whitecaps, The Nutcracker, Mulan musical, Playland, and Canyon Lights are just some of the great opportunities we've been able to offer families this past year.

Anyone can donate tickets to Kids Up Front, which in turn distributes the tickets to partner agencies like us to encourage mentoring and family bonding.

Childhood and adolescence are important periods from many developmental perspectives: physical, psychological, emotional, and cognitive. It's during this time that kids establish their value systems, learn to engage with others, and develop self-esteem.

By supporting children who normally don't have access to family outings and leisure activities, Kids Up Front make these events possible.

Tickets are available throughout the year! If you are interested, please contact Marlyn Chow at the BC Epilepsy Society office at info@bcepilepsy.com or 604-875-6704 x 10.



Great seats at a Canucks game

Your Newsletter - Hard Copy or Electronic

With postal rates increasing again this spring, we'd like to know if you want to continue receiving your twice-yearly hard copy newsletter by mail.

Each newsletter is posted online on our website at www.bcepilepsy.com in the Publications and Resources section. We have archived copies there dating back to the spring of 2009.

We are happy to continue to mail you a hard copy, but if you would like to change to accessing the newsletter online, please let our staff know at info@bcepilepsy.com.



Shakin' Not Cured Gala

This November, we will be hosting another great Shakin' Not Cured gala fund raiser in Vancouver.

Similar to the sold out event we hosted in 2010, this event will also have a James Bond theme to it, hence the play on the name of event. Mr. Bond expected his martinis shaken, not stirred.

More information will be available in the months ahead. You can look forward to great food, outstanding entertainment, and lots of auction items to bid on.

The last event raised thousands of dollars for the Society's programs and services.

If you have suggestions for auction items, potential ticket buyers, or entertainment, please contact Shawn Laari at 604-875-6704 x 12.

Third Annual Cycle Trek Fund Raiser

On September 6 and 7, BC Epilepsy Society Board member Steven Fruitman will once again be leading his team of cyclists in the third annual 200 km cycle trek fund raiser from White Rock to Cultus Lake and return.

Steven and his teammates have raised thousands of dollars for our Society's programs and services over the past two years and they're setting their goals very high again this year.



Steven (third from the left) with his teammates

We will have more information available in the months ahead on how to either join the team or make a pledge to the riders in support of this great event.

Please contact Shawn Laari at 604-875-6704 x 12 for further information.

Thanks Canucks

The members, volunteers, and staff of the BC Epilepsy Society would like to thank the Vancouver Canucks and the NHL for their donation of tickets to the March 2nd Heritage Classic game between the Canucks and the Ottawa Senators.

The tickets were valued at over \$8,800.

This is just one more example of the Canucks' support of our charity. In the past, they have donated the use of the charity luxury suite so we could take kids with epilepsy to three different NHL games.

Through the Canucks For Kids Fund they've donated \$10,000 in support of our Partners in Teaching program.

The continuing generosity of this great franchise is so very important to the families we support.

Thanks Canucks!

SHAKIN'
NOT CURED





Al Roadburg
Foundation



Partners in Teaching Update

Are you looking for epilepsy information for your child's school? If so, we have a variety of services and resources that can help you.

These include educational materials and workshops specifically for school children and staff. This also includes a DVD we made called *Epilepsy and Seizure Information for Schools*. This DVD provides information about recognizing different seizure types (particularly absence seizures) and ways to help support children with epilepsy in the classroom. Copies of the DVD are available for \$10. You can also watch it on our website at www.bcepilepsy.com/publications_and_resources/DVDs.aspx.

For more information please contact Elvira Balakshin at 604-875-6704 x 11 or at outreach@bcepilepsy.com.

Purple Day

Purple Day is an international grassroots effort dedicated to increasing awareness about epilepsy worldwide. On March 26 annually, people around the world were invited to wear purple and host events in support of epilepsy awareness.

People in dozens of countries on all continents participated in Purple Day!

Across BC, children and adults hosted fund raising and awareness events to educate the public and help support the programs and services we deliver. These included a half-day education day in Burnaby and an office donation campaign in downtown Vancouver.

To add more colour to the celebration, we asked both BC Place stadium and Science World to turn on their outside lights in purple.

Our staff hosted an open house at our office and created a first-time photo contest, which included categories for best purple animal photo, best purple food photo, best purple clothing photo, best purple nature photo, and best creative depiction of the colour purple. You can see all the winning photos on our blog, Facebook page, Pinterest board, and Flickr page. Congratulations to all of the winners!

The photo to the right of one of our winners is titled, the Kwakiutl hummingbird and a purple ribbon. These were hand painted on the T-shirts. This project was done in honour of a family member with epilepsy.

Please start to think about your purple day plans for March 26, 2015. We will be hosting a contest for most media attention and best ideas.

Check our website and monthly e-newsletters for details this fall.



Monthly Giving Plans

We've heard from donors who feel that it's easier for them to make a series of monthly donations rather than a single donation each year.

We have donors who make gifts of \$10, \$25, or \$100 a month, but you can choose any amount that fits your budget. We accept both Mastercard and Visa.

You'll receive a tax receipt for the full amount of your donations at the end of December.

You can choose to have your monthly donations designated to support any of our great programs, resources, or research grants.

You can use the form on the back of this newsletter to start your monthly donations. Please contact Shawn Laari at the Society office at 604-875-6704 if you have any questions.

New Online Adult Support Groups

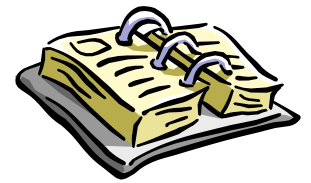
Come and join one of our support groups! It's an opportunity to connect with friends, families, and other individuals who share your experience of living with epilepsy. It's a place to experience confidential emotional support and to share information and resources. It also provides an opportunity to exchange practical solutions to the everyday challenges associated with epilepsy.

We have two options for you to consider:

Lower Mainland: #2500-900 West 8th Avenue, Vancouver on the first Thursday of each month from 7pm-8:30pm.

NEW Online Support Group for those living in BC meets the first Tuesday of each month from 7pm-8pm.

Contact Marlyn or Jas at the BC Epilepsy Society office if you'd like to join an existing support group or would like to help start a new group.



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 information in the Support Us section of our website at www.bcepilepsy.com/support_us. This information will help you understand your planned giving.

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 at 604-875-6704.

Donate Your Shoppers Drug Mart Optimum Points

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

To donate your Optimum Points to the Society, go to: www.shoppersdrugmart.ca/donate and browse the Shoppers Optimum section. Then click on DONATE NOW! and fill in the form.

Many supporters have donated their points already. Any number of donated points will be greatly appreciated.

In Celebration Events

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 host 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 or services.

Brochures, information sheets, and posters on epilepsy and our Society are available for you to give to the donors at your special event.

Please contact Shawn Laari at the Society office at 604-875-6704 or laari@bcepilepsy.com if you would like to support the BC Epilepsy Society through an “in celebration” event.



Our Website Adds New Function and Content

We've made further improvements to our website since we updated you last fall. We've added new and updated information sheets, new translated resources, and new videos and PowerPoint presentations. Please check out the new look and features of our homepage.

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 Our Monthly E-Newsletter

If you're interested in subscribing to our e-newsletter, go to www.bcepilepsy.com and click on Sign Up for Email News on our home page, or contact the staff at the BC Epilepsy Society office. We have over 2,100 subscribers to our e-newsletter.

The template has been upgraded to improve access to information. Since its debut over seven years ago, we've offered breaking news, event information, special offers, and many topical issues. We present a variety of topics every month, so there's always room for your suggestions.

Be a Part of Our Growing Team

We've recently completed our tenth consecutive year of significant membership growth. The more members we have, the better 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 membership/donation form below if you would like to join our great team. If you've been a member of the BC Epilepsy Society in the past, please use the form below to renew your membership, which expired at the end of our Annual General Meeting on April 7.

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BC Epilepsy Society

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T: 604-875-6704 F: 604-875-0617 info@bcepilepsy.com twitter.com/BCEpilepsy

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

Patron: The Honourable Judith Guichon, Lieutenant Governor of BC

Name: _____ Phone: _____

Email: _____ Fax: _____

Address: _____ City: _____

Province/State: _____ Postal Code: _____

\$10 Individual \$50 Organization

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

Cheque VISA MasterCard

Name on Card: _____

Card Number: _____ Expiry Date: _____

Signature of Cardholder: _____