September 2016

Fall Edition

EPILEPSY AND SEIZURE ASSOCIATION OF MANITOBA

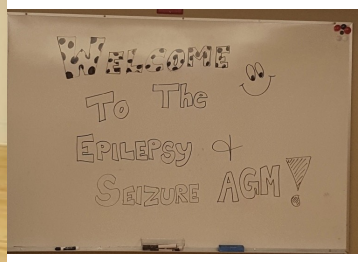
Epilepsy Educator

News from ESAM

2016 Annual General Meeting

ESAM would like to thank George Leonard, Master Trainer from MSAR Elite Service Dogs and Bennie the amazing service dog, for the wonderfully informative presentation on service dogs, including seizure alert dogs. ESAM would also like to thank everyone who took the time to join us for the evening at the annual general meeting.

Guest speaker, Master Trainer, George Leonard from MSAR Elite Service Dogs and Bennie



ESAM Board of Directors

Epilepsy causes may be understood with new virtual brain

Epilepsy News Today-August 2, 2016, Inez Martins PhD-

New Virtual Brain May Help Understand Epilepsy

Understanding how a patient's brain is affected by epilepsy may be easier now that researchers at the French National Institute of Health and Medical Research (INSERM) and colleagues have created a virtual brain, called Virtual Epileptic Patient, that integrates patient-specific information in virtual brain models.

The study, The Virtual Epileptic Patient: Individualized whole-brain models of epilepsy spread," published in *NeuroImage*, says the virtual brain could help scientists understand how the disease works and may provide important informant to help physicians prepare for surgery.

Patients with epilepsy have heterogeneous brain manifestations that require personalized diagnosis and treatment that is difficult to achieve because the cause of the disease is unknown in most patients. In fact, though patients are often examined by magnetic resonance imaging (MRI) and electroencephalogram, only about 50 percent show visible anomalies.

In the recent study, the research team developed a virtual brain template that can incorporate individual patient information: how the brain's regions are organized and how they connect with each other; which regions are causing epileptic seizures (epileptogenic zone); and where MRI lesions are located in the brain.

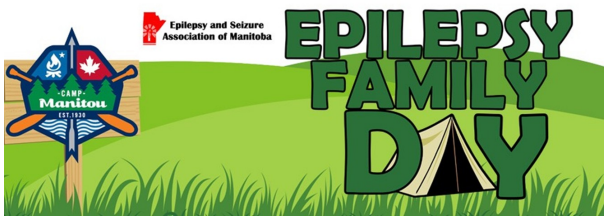
Through mathematical models that reproduce cerebral activity in the virtual brain, the researchers can reproduce the area where epileptic seizures begin and can study how the seizures spread and grow. The model can then predict how seizures occur individually in each patient, furthering its diagnostic capability.

This tool may also be very valuable for surgeons. About 30 percent of epileptic patients do not respond to drugs which leaves surgical removal of the epileptogenic zone as the only therapeutic action. The virtual brain allows surgeons to identify the area to be surgically removed, study different surgical possibilities, analyze the consequences of each approach, and improve the success rates of surgical treatments.

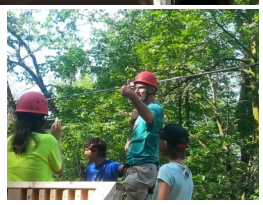
Researchers expect the Virtual Epileptic Patient to help deliver personalized medicine for patients with brain conditions, by offering virtual but tailored therapeutic solutions for individual patients. Currently, they are attempting to demonstrate the predictive value of the model in clinical trials, and testing it for conditions that include stroke, multiple sclerosis, Alzheimer's disease, and other neurodegenerative diseases.

http://epilepsynewstoday.com/2016/08/02/researchers-develop-virtual-brain-that-may-help-understanding-epilepsy/

2016 Family Camp Day



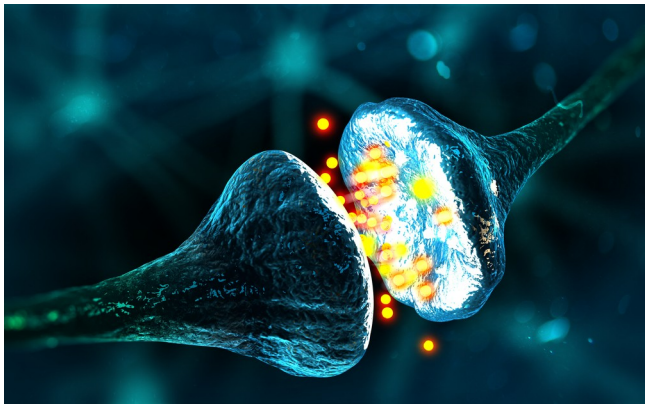
On July 17, 2016, the first Epilepsy Family Day was held at Camp Manitou. Participants were able to take part in rock wall climbing, zip lining, arts and crafts, archery, swimming, basketball, bubbles and chalk, orienteering, as well as campfire cooking. Thank you to all of the volunteers who helped make this day possible. Looking forward to next year!



Brandon Epilepsy and Seizure Support Group

The Brandon Epilepsy & Seizure Support Group participated this year in Brandon Jeans Day. This event encourages employees to wear jeans on the last Friday of every month. Donations are collected and given to non-profit organizations around Westman. To date, approximately $300 has been collected. The group would like to thank the community for their support!

Neural pixel device has potential to detect epilepsy, halt seizures



Epilepsy News Today-September 1 2016-

Scientists at Linköping University in Sweden describe a novel method to detect epilepsy at its source in a single cell. The technology could ultimately stop epileptic seizures before they even start.

The report, "Bioelectronic neural pixel: Chemical stimulation and electrical sensing at the same site," was published in the journal *Proceedings of the National Academy of Sciences* (*PNAS*).

Epilepsy is commonly treated with medications, but these have side effects and are not always effective for preventing seizures. Halting the development of a seizure would be a desirable treatment for epilepsy as well as a great improvement over current drugs for the neurological condition.

Neurons are the information-processing cells of the brain and nervous system and are usually hyperactive during an epileptic seizure. The use of a device called a neural pixel can detect neuron overactivity and also suppress it exactly at its origin.

The treatment is, in a sense, what is called a magic bullet, a sought-after goal that acts only on the affected region of the body. Drugs cannot act as magic bullets because they pass through many bodily systems other than the one they are intended to treat, which can sometimes lead to harmful unwanted effects.

"Our technology makes it possible to interact with both healthy and sick neurons. We can now start investigating opportunities for finding therapies for neurological illnesses that arise so rapidly and so locally that the patient doesn't notice them," the study's principal author, Prof. Daniel Simon, said in a press release.

The researchers studied the device in brain slices from mice. The neural pixel senses neuron activity and then doses small amounts of the natural brain chemical GABA, a substance that shuts down neuron communication.

"The same electrode that registers the activity in the cell can also deliver the transmitter. We call it a bioelectronic 'neural pixel,' since it imitates the functions of biological neurons," Simon said.

"Signaling in biological systems is based on chemical signals in the form of cations, which are passed between transmitters and receptors, which consist of proteins," said Prof. Magnus Berggren, a co-author of the study.

"When a signal is transferred to another cell, the identification of the signal and the triggering of a new one occur within a very small distance — only a few nanometers. In certain cases, it happens at the same point. That's why being able to combine electronic detection and release in the same electrode is a major advance," Berggren said.

The device is made from plastic that is not rejected by the body's immune system. Ultimately, the technology may be implanted in whole animals and hopefully humans, to act as a therapy that prevents epilepsy.

http://epilepsynewstoday.com/2016/09/01/single-cell-technology-may-detect-epilepsy-suppress-seizures

ESAM to attend Comic Con 2016

Are you attending C4 Central Comic Con 2016? So are we!!! ESAM staff and volunteers will be set up at a table fundraising and distributing resources on epilepsy/seizure disorder. If you are planning on attending Comic Con, please stop by and say hello, we would love to see you there!

Comic Con will take place the weekend of October 28, 29, 30 2016 at the RBC Convention Centre.

For more information on Comic Con 2016, or information on how to get tickets, please see the Central Canada Comic Con website:

http://www.c4winnipeg.com/

ESAM to attend JimCon Table Top Games Convention

Love to play board games, card games, and table top game? JimCon 6 Table Top Games Convention is a fun way to meet people and get your game on! New to playing table top games? No worries, newbies are welcome. A

ESAM staff will be set up at a table at JimCon Table Top Games Convention throughout the three day event.

JimCon will take place November 11, 12, and 13 at the Bronx Park Community Centre, located at 720 Henderson Highway. For further information on JimCon, please see their website:

http://jimcon.ca/2013/

Purple Pumpkins for Epilepsy Awareness

This Halloween, why not paint a pumpkin purple for Epilepsy Awareness? For the third year, ESAM is supporting the Purple Pumpkin Project.

Paint your pumpkin purple, and include a message that states why your pumpkin is purple. Help us raise awareness of epilepsy and seizure disorders this Halloween. We would love to see the pictures of your purple pumpkins!

Out of the Shadows Poker Tournament Fundraiser

Out Of The Shadows Charitable Poker Tournament

PROCEEDS DIRECTED TO EPILEPSY AND SEIZURE ASSOCIATION OF MANITOBA

Thursday November 10th 2016

7:00 PM

UPPERDECK POKER ROOM

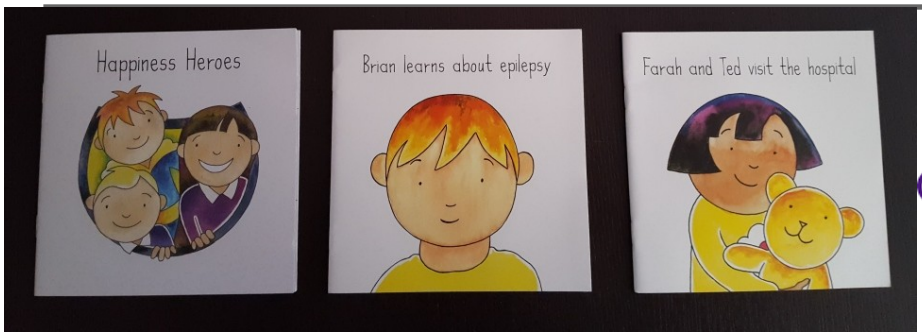
McPHILLIPS STATION CASINO

$60.00 per ticket

To register please contact: ADAM-204-782-7356

atphumphreys@outlook.com

Child-friendly epilepsy resources



epilepsy scotland
Scotland's voice for epilepsy

Epilepsy Scotland produced some wonderful child-friendly resources on epilepsy. We reached out to Epilepsy Scotland and they were kind enough to send us copies of their new resources. We have a limited amount available. If you are interested, please contact the office for further information.

Out of the Shadows Variety Night Fundraiser

ESAM Christmas Party

We would love if you would join us to celebrate this holiday season.

Date: Thursday December 8, 2016

Location: 170 St. Mary's Road, Central Church of Christ

Time: 6:30pm

RSVP to ESAM offices. All are welcome. Refreshments will be provided.

EPILEPSY AND SEIZURE ASSOCIATION OF MANITOBA

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https://www.facebook.com/epilepsy.seizures