

Saskatchewan Comprehensive Epilepsy Program

Newsletter



Spring 2016, Issue 4



Approximately 50 million people worldwide have epilepsy (300,000 people in Canada), making it one of the most common neurological diseases globally.

In many parts of the world, people with epilepsy and their families suffer from stigma and discrimination

Purple Day, Saskatchewan Celebration March 24, 2016



Purple Day is an international grassroots effort dedicated to increasing awareness about epilepsy worldwide. On March 26th annually, people in countries around the world are invited to wear purple and host events in support of epilepsy awareness. Last year, people in dozens of countries on all continents including Antarctica participated in Purple Day!

This year Purple Day will be celebrated at Royal University Hospital on Thursday March 24, 2016. Come join us for the celebration. There will be a Purple Day Booth in the Main Mall Area from 8 am to 4 pm, including door prizes and epilepsy awareness information.

We are also pleased to have joining us this year for the celebration Seizure Response Dog Guides. You can have your picture taken for free with the

Seizure Response Dogs from 10-11 am and 1-3pm. There will also be a demonstration of the Seizure Response Dog Guides by the Lions Foundation of Canada from 12-1pm in the SaskTel Theatre at Royal University Hospital.



Inside this issue

- 2 Our Story – The Saskatchewan Comprehensive Epilepsy Program
- 3 Pediatric Epilepsy Program
- 4 Epilepsy Brain Bank
- 5 Clinical Neurophysiology Department
- 6 Single Seizure Clinic

Dr. J. Tellez with Epilepsy Dog at
American Epilepsy Meeting in
Philadelphia



Our Story: Saskatchewan Comprehensive Epilepsy Program

Jose Tellez-Zenteno, MD

The Saskatchewan Epilepsy Program was established in 2007 by Dr. J. Tellez to help improve the care of epilepsy patients in Saskatchewan. Our team has continued to grow and now includes 2 adult Epileptologists, 1 ICU Specialist with EEG expertise, 1 Pediatric Epileptologist, 3 Pediatric Neurologists, 9 EEG technologists, 1 Neuropsychologist, 2 epilepsy surgeons, a nurse coordinator, a research coordinator, and various administrative staff.

In 2009, the program received funding through donations from the Royal University Hospital Foundation to acquire new video-EEG telemetry equipment that was shared between adult and pediatric patients. We also received donations from the community that was used to purchase a portable EEG for adult patients and to support research projects.

A historical moment occurred in 2011 when the first dedicated Saskatchewan Epilepsy unit bed was established as a result of donations allowing the purchase of a second video-EEG telemetry equipment. The capacity of the program to engage people in the community of Saskatchewan has been a key to the success of our program expansion through their generous donations for equipment and research funding. In 2012 Dr. Gary Hunter joined the program as an adult ICU specialist with expertise in epilepsy and Dr. F. Moien joined the program as a second adult Epileptologist.

Due to the significant waiting time to have a video-EEG telemetry investigation done with only 1 dedicated adult bed, the program organized a fundraising campaign on March 26, 2013 (Purple Day) to raise funds towards a second dedicated bed. Within three months we were able to raise \$100,000 to use to purchase another video-EEG equipment and a second portable EEG. The second dedicated adult telemetry bed was officially opened during our Purple Day Event in March 2014.

In 2015 the Saskatoon Health Region joined the adult (Dr. Tellez-Zenteno – Adult Chair) and the pediatric programs (Dr. Almubarak – Pediatric chair) to form the Saskatchewan Comprehensive Epilepsy Program.

Our program offers the following services: epilepsy monitoring and surgery, implantation of vagal nerve stimulation, implantation of depth electrodes for surgery workup, implantation of deep brain stimulators for select cases with intractable epilepsy, electrocorticography(EEG) and brain stimulation, Single Seizure Clinic, 3-tesla MRI, PET scan, and fMRI.



Dr. Salah Almubarak,
BSc, MD, FRCPC, CSCN, ABCN
**Pediatric Chairperson of
Saskatchewan
Comprehensive Epilepsy
Program**

Pediatric Epilepsy Program

The Pediatric section of the Saskatchewan Comprehensive Epilepsy Program specializes in the evaluation and treatment of children with epilepsy due to the increased demands throughout the province. The goal of the program is to provide the most advanced care for patients with seizures, and especially seizures that are difficult to control. We are committed to comprehensive diagnosis and provide the most effective multimodality of treatment for each patient with epilepsy.

The program provides multidisciplinary care, recognizing that a child with epilepsy and the family always face diverse challenges that cannot be handled by a single person. The program provides services which are collaborated by different departments at the Royal University Hospital that include Pediatric Neurology, Neurophysiology, Neuroradiology, Surgery, Pharmacy, and Integrated Health Services.

Our Program has a strong partnership with the other national pediatric programs in Canada, of which we take the responsibility of providing and creating similar standards of patient care at home without challenging the patients to travel outside the province.

We are part of the national and international research group, of which we share the most advanced care in the management of epilepsy in the pediatric age group. Our staff is affiliated with the University of Saskatchewan, of which the continuous education to the students and the community is part of our aim. This program is unique as our adolescent patients may graduate into the co-existing excellent Adult Comprehensive Program of Saskatchewan in a transitional phase at the same hospital.

Patients are referred to the Pediatric Neurology clinic for an initial assessment at the Royal University Hospital in Saskatoon. The Pediatric Epilepsy clinic is well integrated with one another so patients benefit from all available treatment options, including medication trials, Ketogenic diet as well as surgical intervention if indicated. All Pediatric Epilepsy patients should be referred to the following address:

Pediatric Epilepsy Clinic
Pediatrics Department
Royal University Hospital
103 Hospital Drive – Room 2739
Saskatoon, Sask. S7N 0W8
Tel: (306) 844-1236
Fax: (306) 844-1535

Our new triage system is very efficient in accepting the patients within a short period of time.

Saskatchewan Comprehensive Epilepsy Program's Brain Bank

Dr. Lizbeth Hernandez-Ronquillo

Canada has joined the United States, Germany and other European countries in establishing a "Brain Bank" to study the causes of refractory epilepsy in adults, thanks to the Saskatchewan Epilepsy Program in Saskatoon.

Approximately 10,000 people in Saskatchewan (or one per cent of the population) have epilepsy. Nationwide that number jumps to 300,000. In about 30-40 per cent of cases, medication is ineffective for controlling the condition. This can make simple tasks like cooking or driving a challenge, since a seizure can come on with little warning putting the patient or others at risk.

A portion of these patients could be potential candidates for epilepsy surgery. These are patients with refractory epilepsy with partial onset seizures that have been investigated using different tests including Video-EEG telemetry, PET scans, MRI and fMRI. Having the results of those clinical tests on file enhances the research value of the donated tissue samples.

The team hopes that these samples will advance and accelerated research on adults living with temporal lobe epilepsy, the most common type of epilepsy in adults and where medication is ineffective in about 70 per cent of the cases.



DR. FARZAD MOIEN completed his neurology residency at the University of Saskatchewan and fulfilled his epilepsy fellowship at Harvard Medical School. He has also earned a Ph.D. degree in pharmacology and therapeutics at the University of British Columbia. Dr. Moien has worked at the University of Saskatchewan as an assistant professor since July 2012.

He is clinically involved in the assessment and treatment of patients with complex seizures. In addition, he performs work up for epilepsy surgery including prolonged electroencephalogram monitoring. His research includes investigating novel treatments for preserving memory-forming structures of the brain during prolonged seizures. He is interested in finding new antiepileptic medications by analyzing brain samples donated by patients who have undergone epilepsy surgery.

For the first time in Canada, he and his colleagues have established an adult epilepsy brain bank to advance epilepsy research. He has introduced a fast and easy way of recording electroencephalogram in the ER, which is unique in Canada and helps early diagnosis of hidden seizures to prevent brain damage.



**DR. GARY HUNTER MD,
FRCP(C)CSCN(EEG)**

Dr. Hunter is Neuro-hospitalist and Neuro-intensivist at RUH, focused on the care of acute neurological disease including prolonged seizures and status epilepticus, often requiring long-term EEG recording in ICU and on the inpatient ward. Dr. Hunter's undergraduate studies and neurology residency were at the University of Saskatchewan, followed by neuro-critical care fellowship at the University of Western Ontario. Current research interests include clinical correlates of EEG attenuations in adults, continuous sub hairline EEG after cardiac arrest, and robotic consultations in the neuro-critical care setting.



Clinical Neurophysiology Department

**Dianne Dash
R.E.T., RT(EMG), CNIM**

Epilepsy Monitoring provides a scientific approach to determine the localization of seizures for surgical treatment. To determine if a patient is a surgical candidate they need to be referred to an Epileptologist for evaluation. The department's role in this evaluation process is to provide continuous EEG video monitoring with either surface or a number of stereotactically implanted depth electrodes in the brain for sustained period of 1-2 weeks. Additional tests in this initial phase may include MRI, PET Scan, Neuropsychological evaluation, intracarotid etomidate speech and memory testing, and FMRI. Cases are discussed using a multi team approach regarding monitoring and surgery at our Epilepsy Conference Rounds. We are proud to announce Saskatoon is one of three (3) sites in Canada that performs the European Method of Depth Electrode Implantation for seizure localization (Montreal Neurological Institute, Edmonton Capital Health and Saskatoon Royal University Hospital).

Upon specific localization of the seizure focus and the congruency of other tests, resection surgery is performed without added neurological deficits. Many patients undergo a standard temporal lobectomy however; increasing numbers are receiving extratemporal cortical resections. Overall results from seizure elimination to substantially marked seizure reduction with improved quality of life.

The key features of this Epilepsy Program are the integrated testing procedures and Scientific Epilepsy Team approach which results in congruent scientific analysis with successful results.

In addition to the Epilepsy Program, the department provides a variety of neurophysiology testing for the province, including, Electroencephalography (EEG), Epilepsy Long Term Monitoring for Adults and Pediatrics, Portable Home EEG Ambulatory Monitoring, Evoked Potential (VER, BAER, SSEP), Electromyography (EMG), Nerve Conduction Studies (NCS), and Electroretinograms (ERG).

**PURPLE DAY
FOR EPILEPSY
AWARENESS**

Single Seizure Clinic (Adult)

Phone (306)655-0952, Fax (306)844-1524

The Single Seizure Clinic is held on Thursday's at Royal University Hospital. The clinic is for patients who have had their first unprovoked seizure. The patient will be scheduled by the clinic for an EEG in the am prior to being seen in the clinic in the afternoon by the physician the day of their appointment.



Come join us for

**PURPLE DAY
EPILEPSY AWARENESS
CELEBRATIONS**

**At Royal University
Hospital**

On

**Thursday March 24, 2016
8 am to 4 pm**

Support the Saskatchewan Epilepsy Program at ruhf.org



Support the Saskatchewan Epilepsy Program at ruhf.org

Yes! I would like to donate \$ _____

Name(s) _____

Address _____

City/Prov/Postal Code _____

Phone _____ Email _____

I would like to honour my commitment by:

- Donating online (visit ruhf.org)
- Cheque payable to RUH Foundation - Sask Epilepsy Program
- Credit Card (please complete the following)



Card Number _____

Expiry Date _____ (mm/yy)

Signature _____

Date _____ (mm/dd/yy)

Your Support Counts

We appreciate your gift. A charitable tax receipt will be issued for donations of \$10 or more once per year for pre-authorized payment donations.

RUH Foundation respects your personal information and adheres to all privacy regulations. We do not rent, sell or trade our mailing lists. The information you provide will be used to deliver services and to keep you informed on the activities of RUH Foundation. If, at any time, you wish to be removed from our database, contact us at (306) 655-1984 or ruhfoundation@saskatoonhealthregion.ca.

Royal University Hospital Foundation
103 Hospital Drive, Saskatoon, SK S7N 0W8
T (306) 655-1984 F (306) 655-1979
ruhfoundation@saskatoonhealthregion.ca
ruhf.org



LIKE us at :
"Saskatchewan Epilepsy Program"