



OUR STORY: SASKATCHEWAN EPILEPSY PROGRAM

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For many years Saskatchewan did not have an epilepsy program. Neurologists had a difficult time treating patients with intractable epilepsy and many patients were referred to other provinces. Epilepsy monitoring and surgery were performed intermittently primarily in pediatric and some adult patients by Dr. Lowry (Pediatric Neurologist) and Dr. Griebel (Neurosurgeon). In 2007, Dr. Tellez-Zenteno arrived in Saskatoon, which is the largest city in the province and the location of the University of Saskatchewan. Prior to his arrival, Dr. Tellez had four years of training at the Epilepsy Programs of the University of Western Ontario and the University of Calgary. Dr. Tellez started organizing a resource centre for the province where patients with complex epilepsy could be assessed and treated, including the option of epilepsy surgery. Over the years the program has been incorporating highly motivated people interested in epilepsy. Presently, our team is composed of two adult epileptologists, one ICU Specialist with EEG expertise, seven EEG technologists, one neuropsychologist, two epilepsy surgeons, a nurse coordinator, an epilepsy fellow, a research coordinator and administrative staff.

In 2009 the program received the first donation (100,000) to acquire new video-EEG telemetry equipment through The Royal University Hospital Foundation. This equipment was shared between pediatric and adult patients. In the same year the program received a second donation from people in the community (90,000) 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 the third donation (100,000)

by generous people in the Saskatoon community allowing the purchase of a second video-EEG equipment. The capacity of the program to engage people in the community of Saskatchewan has been key to the success of our program. Currently the program is very active in the pre-surgical evaluations and epilepsy surgery. Since 2007 the program has investigated one hundred and eighty patients (video-EEG telemetry) and ninety candidates have been operated. Our experience showed a seizure free rate of 70%, which is in agreement with the international standards. The program covers 1.1 million (population in Saskatchewan) and is the only service available in the province.

Our program offers the following services a) epilepsy monitoring and surgery, b) implantation of vagal nerve stimulators, c) implantation of depth electrodes, d) electrocorticography and brain stimulation, d) a Single Seizure Clinic, e) 3-tesla MRI, f) PET scan and g) fMRI

The program has been involved, since the beginning, in clinical research. The program, has delivered more than sixty peer reviewed articles, presented more than sixty five abstracts in national and international meetings and nine book chapters since 2007. The most successful research in our program has been related to the exploration of outcomes after epilepsy surgery, epidemiology of epilepsy and the assessment of different clinical outcomes in patients with drug resistant epilepsy. The Program also started an epilepsy fellowship program in 2012 to enhance research activity. It has received more than two millions dollars in donations and grants for clinical research.

The significant waiting time to have a

video-EEG telemetry investigation (three years) with only one established bed brought the necessity to consider a second permanent bed to perform video-EEG telemetry investigations. The program organized a fundraising campaign in March 26 of 2013 (Purple day). In three months we were able to raise 100,000 dollars to buy a third video-EEG equipment and a second portable EEG. To promote this campaign we opened a website in Facebook which has been used to educate patients with epilepsy and inform the various activities of the program. As per our knowledge we were the first epilepsy program to open a Facebook page in Canada .

The program has plans for the future. We are in the process of establishing our first transition clinic. We are also developing a program to offer deep brain stimulation for selected cases with intractable epilepsy. We would like to establish strong collaborations with basic epilepsy scientists at the University of Saskatchewan. Finally the program will continue collaborating in clinical research with other epilepsy centers in the country.

