

Transforming Care Through Research...

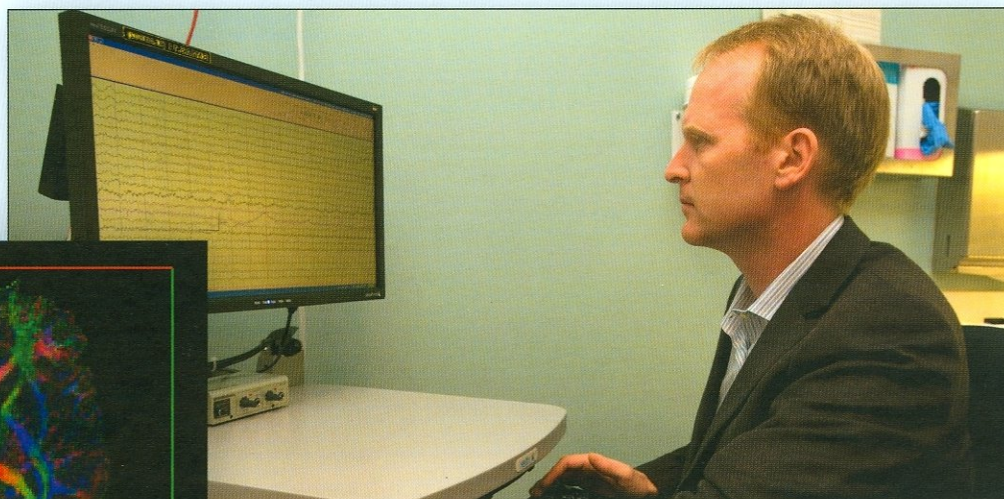
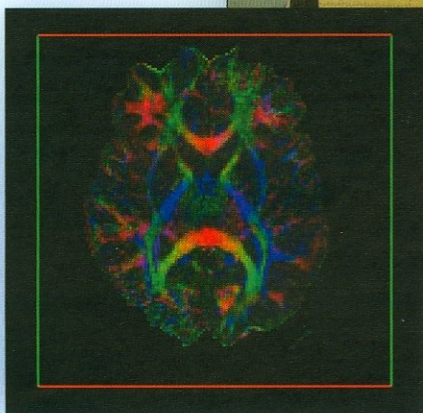
“It is truly incredible the number of researchers who have used this seed money to grow their projects and who have gone on to find the answers they were looking for. I can’t say more in terms of the importance of the Foundation’s Medical Research Competition.”

DR. JEFFREY D. JIRSCH, FRCPC, ASSISTANT PROFESSOR, DIVISION OF NEUROLOGY, UNIVERSITY OF ALBERTA

Medical Research Competition

Each year the University Hospital Foundation Medical Research Competition distributes funding for promising medical research at the University of Alberta Hospital and the Mazankowski Alberta Heart Institute. Successful projects are selected through a process of peer review and must provide a clear link to a clinical problem with an emphasis on bringing results from the bench to the bedside.

During 2010, the Faculty of Medicine and Dentistry received 44 applications for research funding. Of these, 16 projects were selected to receive a total of \$500,000 of Foundation funding. Many of these projects are led by new investigators and hold great promise in shaping the future of health care. Every day donor support for medical research is funding advancements that will help save lives and reduce the impact of illness and disease.



Using high resolution MRI and intracranial EEG images, Dr. Jeffrey Jirsch is able to pinpoint the the precise areas of the brain affected during an patient’s epileptic seizures. In this MRI image (picture left) a distinct red colouring in the right posterior of the brain that is not present in the left side of the brain conforms to the region where the patient’s epileptic seizures are originating on the intracranial EEG.

Pinpointing Epileptic “Hotspots”

Epilepsy is a neurological disorder in which a person experiences seizures caused by abnormal electrical activity in the brain. Two-thirds of patients with epilepsy are treated successfully with medication and are able to live less restrictive lives. For those who do not respond to medication, surgery is often the only way to reduce or eliminate seizures.

In a new study funded by the University Hospital Foundation Medical Research Competition, Dr. Jeffrey Jirsch and Dr. Donald Gross are researching the use of combined technologies to pinpoint the precise area of the brain that is affected

during seizures. This research is examining high resolution MRI images from the high-field (4.7 Tesla) MRI in the Peter S. Allen MR Research Centre. Researchers will also be assessing intracranial EEG recordings to measure the electrical activity of the epileptic brain. The combined modalities will help to accurately locate epileptic “hotspots” in the brain.

Information obtained using these advanced technologies will help increase the likelihood that surgery to reduce or eliminate seizures will be successful, giving patients with epilepsy the freedom to participate in activities previously limited by their condition.