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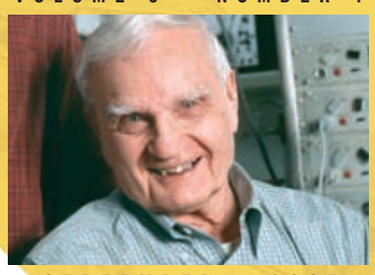

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Faculty of Medicine and Dentistry News

UNIVERSITY OF ALBERTA

Preserving pancreatic islets for clinical transplantation

Diabetes Research Wellness Foundation donates $200,000 US to support islet preservation and isolation techniques

A prominent American philanthropic foundation has recently awarded funding to a University of Alberta professor to help solve some of the problems associated with recovering and preserving well-functioning islet cells used in the Edmonton Protocol.

Surgery professor Jonathan Lakey

The Diabetes Research and Wellness Foundation, based in Washington, DC, recently awarded Jonathan Lakey (Department of Surgery) $200,000 US, to back his work directed at blocking the death of islet during pancreas preservation and islet isolation.

"Since many of the islet cells lose their function during these procedures, it's still difficult to recover consistently sufficient numbers of functional islets from a single cadaveric donor pancreas to achieve insulin independence after transplantation," explains Dr. Lakey.

Researchers know that a lack of oxygen (hypoxia) during the islet isolation process triggers cell death, and that even after the cells survive the preservation and isolation techniques, eventually they die after transplantation by ischemia-reperfusion injury. "We don't yet fully understand the series of events associated with anoxia (severe hypoxia) and cell death," says Dr. Lakey.

He and his team will use the support from the Foundation to focus on three areas: islet cell responses to anoxia, hypoxia and hyperoxia with or without hypothermia; the role of antioxidants and nutrients in islet cell death; and the control of apoptosis signals and understanding the related mechanisms during the preservation and islet isolation procedures.

"We think that supplying oxygen with antioxidants will help prevent apoptosis in islets and promote their function during the preservation and islet isolation procedures, perhaps by preventing oxidative stress," Dr. Lakey suggests. The team will first begin with animal models and then human islets, to determine whether the effects are similar.

The Diabetes Research and Wellness Foundation™ was founded to help and find the cure for diabetes and, until that goal is achieved, to provide the care needed to combat the detrimental and life-threatening complications of the disease.

Steven Aung Member of the Order of Canada

A well-known practitioner of traditional Chinese medicine and clinical professor at the University of Alberta has been named a Member of the Order of Canada. Steven Aung was among 82 new appointments made late last month.

Her Excellency the Right Honourable Adrienne Clarkson, Governor General of Canada, made the appointments effective as of June 29, 2005. Recipients will be invited to accept their insignia at a ceremony to be held at a later date.

Dr. Aung is a geriatric and family physician and a traditional Chinese medical practitioner and teacher. He blends Eastern, Western and natural medicine in his medical clinic in Edmonton. At the U of A, Dr. Aung is an associate clinical professor in the Departments of Medicine and Family Medicine and adjunct professor of Extension. Dr. Aung founded the Certificate Program in Medical Acupuncture at the University in 1991, and he is the program's chief instructor, examiner and curriculum consultant.

He is also a medical acupuncture consultant for the University of Alberta Hospitals, the Cross Cancer Institute and the Caritas Health Group (Edmonton General Site, Misericordia Community Health Centre, Grey Nuns Community Health Centre) as well as the Glen Sather University of Alberta Sports Medicine Centre and the Edmonton Oilers Hockey Team. He is an active member of the Acupuncture Committee, Province of Alberta.

Leading pediatric cardiologists join team

Capital Health and the University of Alberta have recruited two of Canada's top pediatric cardiologists for the Stollery Children's Hospital. Lori West and Jeff Smallhorn, from Toronto's Hospital for Sick Children, will move their clinical and research activities to Edmonton this month.

"Dr. West's research and clinical practice surrounding heart transplants in infants has revolutionized how these children are treated—not just here in Canada but all around the world" says Terry Klassen, regional clinical program director of Capital Health's Child Health Program and chair of the University of Alberta's Department of Pediatrics. "Dr. Smallhorn established the Fetal Cardiac Program at the Hospital for Sick Children, which is one of the largest fetal cardiac programs in North America. With the arrival of these two individuals comes expertise, as well as the latest and best treatment for children with cardiac problems."

Dr. West has been the medical director of the Heart Transplant Program at The Hospital for Sick Children since 1993. Her research team demonstrated that it was safe to use organ donors of mismatched blood group in infants. This clinical heart transplant protocol has now been adopted in 16 centres in five countries worldwide, and has dramatically decreased the deaths of infants on the waitlist while minimizing wastage of rare donor organs.

Dr. Smallhorn was one of the first pediatric cardiologists to use echocardiographic technology in the diagnosis of heart diseases. During his time at the Sick Kids, Dr. Smallhorn established and built the Fetal Cardiac Program into one of the finest cardiac diagnostic centres for children in the world.

The Stollery Children's Hospital is currently the prairie province referral centre for complex pediatric cardiac surgery, including open heart and transplant procedures. It is also the home of the Western Canadian Children's Heart Network.

Deb Gordon, chief operating officer, Stollery Children's Hospital and University of Alberta Hospital, says: "The addition of these two world class physicians will mean that we are able to build on Capital Health's reputation as one of the leading centres for complex cardiac care for children in North America and enhance research being done in the area of pediatric cardiac sciences."