

ResearchNews

Curable Type-1 Diabetes? New Islet Cell Breakthrough from the Centre for Immunology & Infection

November is Diabetes Awareness Month and the Vancouver Coastal Health Research Institute is actively involved in research activities, which may lead to a cure for type-one diabetes

The Islet Transplant Program at the Ike Barber Human Islet Transplant Laboratory (part of the Centre of Immunology & Infection) is an example of the cutting-edge work taking place. Led by **Dr. Garth Warnock** (who is also Head of the Department of Surgery at UBC and Surgeon-in-Chief at VGH) and Dr. Mark Meloche (also Head Section of Surgery at the BC Transplant Society), the program provides an alternative to pancreas transplant. **Recently, investigators have had another breakthrough that may make it possible for more type-1 patients to receive treatment.**

Islet cell transplantation involves isolating islet cells from pancreas obtained through organ donation. Healthy insulin-producing cells are then extracted and transplanted into a patient with type-1 diabetes. The patient is then treated with rejection suppression therapy to help the body accept the new cells. Just over a year ago, this procedure was successfully undertaken for the first time in BC, with the patient living insulin-free. Since then, several other patients have also had successful procedures.

Islet cell transplantation has the potential to be a cure for type-1 diabetes, but there are challenges. One problem is overcoming constraints by limited donor resources. Traditionally, a donor pancreas only yields a limited amount of islet cells



Dr. Garth Warnock

needed for transplantation. This restricts the number of patients able to have the procedure. To do deal with this limitation, Drs. Warnock and Meloche and their team have developed a new procedure to improve the cell yields. It involves conditioning pancreatic tissue with culture incubation *in vitro*, which allows more cells to be extracted. Studies show that the process significantly improves islet cell yields. More cells mean more availability for transplantation into patients living with type-1 diabetes.

SPOTLIGHT



Left to right: John Fleetham, Frank Ryan, Peter Hamilton, Najib Ayas (seated), Jonathan Fleming, Alan Mulgrew, Michael Schulzer

Respiratory & Critical Care Research Centre

The Respiratory & Critical Care Research Centre, led by **Dr. John Fleetham**, is one of the core research programs of VCHRI. The Centre conducts both bench and clinical research in the areas of lung cancer, asthma, chronic obstructive pulmonary disease, sleep apnea, pneumonia, and critical care.

The Centre's Sleep Disorders program is considered world class. Researchers have helped establish national and international guidelines and the program recently

received \$1 million dollars over four years from the Michael Smith Foundation for Health Research to investigate the impact of sleep apnea on health care utilization, job performance, car crashes, and work related accidents. The program has recruited a new clinician-scientist and health economist, as well as database, statistical and clinical trials support staff. Investigators are merging the Sleep Disorders database of over 30,000 patients with the MOH, ICBC,

cont'd p.2

Respiratory & Critical Care*cont'd from p.1*

and WCB databases. Early results are showing patients with sleep apnea have increased work related accidents, car accidents, and increased health care use. With this new funding, researchers will also develop and evaluate new treatments.

Did you know?

- Approximately 250,000 British Columbians suffer from sleep apnea
- The majority of these people remain unidentified and undiagnosed
- Sleep apnea is associated with an increased risk of high blood pressure, heart attack, and stroke
- In North America more than 100,000 motor vehicle crashes are a direct result of driver fatigue each year. This results in an estimated 1,550 deaths, 71,000 injuries, and \$12.5 billion in monetary losses.
- Disasters such as Chernobyl, Three Mile Island, Challenger, Bhopal, and Exxon Valdez were officially attributed to errors in judgement induced by sleepiness or fatigue.
- There are several effective treatments for sleep apnea, including some developed right here at VGH & UBC Hospital.

QUICK FACTS:

- The Respiratory & Critical Care Centre is made up of over 80 investigators in both basic and clinical research.
- The Centre receives approximately \$ 4 million/year in grant funding
- In 2003-4, the Centre produced 150 publications

Around the VCHRI

Update from the Centre for Clinical Epidemiology & Evaluation (C2E2)

Health Economics Team

The Health Economics Team at C2E2 is growing under the direction of **Carlo A. Marra** and **Larry Lynd**. The team currently also includes: **Megan Coombes** (Researcher), **Amir Rashidi** (Researcher), **Dean Regier** (Health Economist), **Kathryn Richardson** (Statistical Analyst), **Peilin Shi** (Statistician), and **Michael Tan** (Health Economist). Their mandate is to investigate the cost-effectiveness of health technologies and other economic issues pertinent to healthcare.

Dr. Marra is a clinical pharmacist with a Ph.D. in health services research. In addition to heading the Health Economics Team he is also assistant professor, Pharmacy at UBC and a Canadian Arthritis Network Scholar. His research program is focused on health economic

and epidemiological research. He is also interested in outcomes evaluation and pharmacoepidemiology.

Dr. Lynd is a research scientist with C2E2 and an assistant professor in the Faculty of Pharmaceutical Sciences at the UBC. He holds an undergraduate degree in Pharmacy from University of Saskatchewan, a Ph.D. in epidemiology from UBC, and completed a fellowship in health economics with **Dr. Bernie O'Brien** at McMaster University. His research interests lie primarily in the areas of pharmacoepidemiology, pharmaco-economics, administrative database analysis and linkage for the evaluation of pharmaceutical outcomes, risk/benefit evaluation.



Ellen Balka, PhD is a research scientist and consultant at C2E2 and a professor at the School of Communication at SFU.

Consultation requests available on-line

The Centre for Clinical Epidemiology and Evaluation offers consulting services in study design, systematic literature review services, statistical analysis, data management solutions, health technology assessments and health economics. Requests for these services can be processed online through www.vch.ca/c2e2. Any additional questions can be emailed to information@c2e2.ca or call **Manpreet Dhillon** at 604-875-4111 ext. 62187.

From Point Grey Campus

New Resources for Researchers: HeRRO



The Health Research Resource Office (HeRRO),

located on the UBC Point Grey Campus, has launched a centralized web-based Core Facilities database aimed at capturing all research facilities associated with UBC faculty. This database currently provides access to more than 300 pieces of equipment, services, specialized rooms, and training. It facilitates access to analytical chemistry, calorimeters, clinical trial services, densitometers, expression profiles of DNA, RNA and protein, research design services, and x-ray crystallography, among others.

The resources listed in the database are located at Vancouver Coastal Health Research Institute (VCHRI), Providence, Point Grey campus, Okanagan campus, BC Cancer Agency, and BCRI. Addition of facilities not described is encouraged and can be done through the web site.

The information describing these research resources is available to everyone but access is determined by

local policies and the operator of the facility. Links in the database provide the contact information for each resource. The database can be accessed on the HeRRO website at www.herro.ubc.ca.

HeRRO houses a centralized network of support personnel for core facilities management, internal grant review, interim funding, and web-based communication. The goal is to foster and promote the work of current investigators and the formation of new multidisciplinary health research teams at UBC and UBC affiliates. Funding for HeRRO is provided by the MSFHR Institutional Infrastructure Program.

For more details on this new web-based database resource please contact:



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Research Knowledge Broker comes to VCH:

The Health Services and Policy Research Collaboratory

One of the challenges to health care decision-makers is to find and use research evidence. Equally challenging to researchers is communicating their findings to those who can use them to change practice. The solution to both of these problems is a knowledge broker.

Dr. Janet Joy describes herself as a knowledge broker. She is the new director of the VCH Health Services and Policy Research Collaboratory, which was recently established to promote the use of research



evidence in health services delivery and policy development. Her role is to help decision-makers identify opportunities to use research evidence in their work, assist them in obtaining and using existing evidence and facilitate collaboration between decision-makers and researchers to create new evidence. She will also help the members of the local research community to identify opportunities to integrate their studies with delivery of health care at VCH.

Dr. Joy recently arrived in Vancouver from the Institute of Medicine in Washington DC, where she directed a series of studies on health policy issues including use of stem cells, research needs in multiple sclerosis, medical marijuana, and medical technology development. Her office is located in the corporate offices in Vancouver. You can contact her at Janet.Joy@vch.ca.



Dr. Tom Oxland

Awards

Several key VCHRI program areas have been recognized by the Canada Foundation for Innovation (CFI) and granted multimillion-dollar awards. The Brain Research Centre at UBC Hospital unveiled new \$8-million facilities this past year. The International Collaboration for Repair Discovery (ICORD) will soon be breaking ground at Vancouver General Hospital for its \$43-million facility. Earlier this year, VCHRI and UBC received innovation awards for the Centre for Hip Health and the Prostate Centre's Translational Research

Initiative for Accelerated Discovery and Development (PC-TRIADD). More exciting news about these two programs will be forthcoming. Kudos to **Dr. Martin Gleave**, Director of Clinical and Translational Research at the Prostate Centre, and **Dr. Tom Oxland**, Director of the Hip Health Centre and Musculoskeletal Research Program, as well as their teams.

Grants & Education

The (Grant) Devil is in the Details

Grant applications come with lots of rules and lists of instructions. While it may be tempting to try to ignore some of the bureaucracy and concentrate on the science, you do so at your peril. This is the first in a series of articles offering tips to help you **avoid deadline panic**. Watch for more tips in future editions of Research News.

1 Make sure that you understand all the instructions. If there is anything about which you are even a bit unsure, check. The granting agency would rather answer your questions, no matter how mundane, than have you submit a grant that is incomplete because you misunderstood the instructions. The deadline date is no time for clarifications or explanations.

2 Anyone supplying you with letters of support (collaboration, reference, etc) will appreciate it if you write a letter for them to sign. While some people might edit your letter, many won't, so write the letter carefully and pay attention to details like spelling and grammar. Send it to them electronically so that they can print it on their letterhead. Keep in touch with them about the progress of your letter, and be sure to give them plenty of time to get the job done. Everyone has plenty of other things to do.

3 Give yourself plenty of time to obtain the institutional signatures that you need. This can take as long as one week, so be prepared. Check the instructions on the Faculty of Medicine web site if you belong to that Faculty. You can also contact VCHRI administration at research@vanhosp.bc.ca if you need advice. Note that all grants require institutional signatures (either university or VCH) even if there is no space indicating it on the form.

Research Education: Look at what's happening at VCHRI!

All workshops running through the VCHRI Research Education Program in November and December are open for registration. Go to <http://www.vchri.ca/s/Workshops.asp> to see the topics, and click on the date to read the description to see if the workshop content is right for you. If the content, date, and time of the workshop work for you, click on "Register" and follow the instructions. The following topics are being offered during November and December:

Nov 9	Online Resources for "Quick" Information
Nov 9	Confidence Intervals
Nov 17	What's up at the Behavioural Research Ethics Board (BREB)?
Nov 22	Basic Literature Searching Skills Using PubMed
Nov 23	Hypothesis Testing
Nov 30	Power and Sample Size in Statistical Inferences
Dec 8	Regression Modeling
Dec 9	SAEs: Guidelines for Submission to CREB

You can also check out the workshops we are planning for January to May. Some of them are already open for registration; for those that are not, we are confirming the details and they will be open soon. All workshops are free of charge, and filled on a first-come, first-served basis unless otherwise stated.

Also keep your eyes on the Research Education web page for exciting changes to our workshop registration system. We will be joining a VCH initiative, the online Course Catalogue and Registration System (CCRS), which will list all courses and educational events that are offered at VCH. This means that you will be able to register 24/7 for any Research Education workshops, as well as see what other educational opportunities are available at VCH. We hope to be on-board early in the New Year, and plan to have more details in the January edition of *Research News*.

If you have general questions or comments about the VCHRI Research Education Program, contact **Patricia Tait** at patait@vanhosp.bc.ca or 604-875-4111 x66782

Vancouver Coastal Health Research Institute

Healthier lives through discovery



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