

A Turning Point in Canadian Lymphatic Research

An exciting announcement was made at the University of Calgary September 24, 2013 of a \$5,000,000.00 gift from the Dianne & Irving Kipnes Foundation to fund a comprehensive, sustainable Lymphedema Research and Education Program at the University of Calgary Snyder Institute for Chronic Diseases.

Three years ago while struggling to manage her secondary bi-lateral leg lymphedema Dianne & Irv partnered with Ian Soles to develop Salutaris Centre - a comprehensive lymphedema clinic in Edmonton based on international Best Practices and Consensus to improve treatment of Lymphedema in Alberta.

In addition Dianne, Irv and Ian, with the support of Dr. Cyril Kay and Dr. Tony Field, undertook to investigate creating a lymphatic research initiative to:

- capture the attention of the medical community,
- improve our understanding of the lymphatic system and
- inform clinical practice to improve lymphedema care.

This announcement September 24th is the culmination of these two initiatives.

This philanthropic investment by Dianne and Irv will launch a world-class lymphedema program at the University of Calgary enabling the construction of a Lymphatic Imaging Suite researching the physiology and pathophysiology of the lymphatic system including lymphatic disorders such as lymphedema.

Despite the central role the lymphatic system is playing in the maintenance of human health, the function and biology of this important and complex system are poorly understood. The first step to improving treatments and outcomes for patients suffering from lymphedema is to improve our understanding of the lymphatic system and its functions through targeted research initiatives.

Research is pivotal to the cure for lymphedema. As we expand our understanding of the complex biology of the lymphatic system, we can develop new diagnostic and therapeutic approaches for patients affected by the disease.

In order to gain a full understanding of the lymphatic system and how it functions, it is critical to be able to visualize it. Visualizing the lymphatic system would allow researchers to understand and assess how lymph flows through the network of lymphatic vessels and why it does not in the vessels of lymphedema patients.

Direct imaging of the lymphatic system has improved significantly, allowing new insights into the development of lymphatic-related disorders such as lymphedema. Current methods routinely used for diagnostic imaging of lymphatics are not well suited for imaging the actual movement of lymph, a critical step to understand how lymphatic vessels work.

Over the last decade huge strides have been made in the visualization of the immune system and the blood vessels. Using specific microscopy technologies and highly specialized imaging equipment has allowed immunologists to visualize the immune system in its natural setting, the body - a huge leap in our ability to understand what happens in both healthy and diseased states.

The Snyder Institute for Chronic Diseases in the Faculty of Medicine at the University of Calgary has acquired several specialized microscopes and has developed innovative imaging technologies and is considered a global leader in the field of imaging the immune system. Many of these novel imaging tools and the expertise that come with them, can be applied to the lymphatic system.

The University of Calgary Faculty of Medicine is well positioned to develop and lead a comprehensive lymphedema research program in Alberta. Building on existing strengths they will develop a multi-modal, multi-disciplinary program incorporating unique, innovative and integrated approaches to lymphedema research.

The Lymphatic Imaging Suite will be associated with the Snyder Institute's world class Live Cell Imaging Facility and will be comprised of two laboratories with custom-designed multi/resonant scanning visible and spinning disk confocal microscopes and a combined multiphoton and laser scanning confocal microscope system.

Initially the research of Dr. Pierre-Yves von Weid, Dr. Paul Kubes, Dr. Steve Robbins and Dr. Shan Liao will focus on:

- Understanding the lymphatic functions related to lymph flow, how they are altered during lymphedema and inflammatory diseases, how the dysfunction affects these diseases and their chronic development and how they can be corrected to restore normal function and promote disease resolution.
- Understanding the intricate cross-talk between the lymphatic system and the immune system to determine how immune cells traffic and interact with lymphatic vessels and lymph nodes in the context of lymphedema and inflammation.
- Understanding the relationships between impaired lymphatic drainage and transport, metabolism and deposition of fat in edematous tissues believed to be critical in the development of chronic inflammatory diseases and lymphedema.

The project will also support education and training of high-quality students and post-doctoral fellows through the creation of scholarships and lymphatic education courses. This will improve emerging and existing physician knowledge in this area.

We at Salutaris Centre are proud of our role in this initiative. For more information about this recent lymphatic research announcement and Salutaris Centre for Lymphatic & Massage Therapy visit our website at www.salutariscentre.com.