

British Columbia Cancer Agency

Centre for Lymphoid Cancer *Newsletter*

Lymphoma ♦ Leukemia ♦ Myeloma

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dedicated to curing the lymphoid cancers

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Centre for Lymphoid Cancer

Lymphoid cancers come in several major types: **lymphoma** (also known as non-Hodgkin lymphoma and Hodgkin lymphoma), **lymphocytic leukemia** and **myeloma** (also known as multiple myeloma or plasma cell dyscrasia). These different names can be confusing. However, all of these cancers develop from the same type of blood cell, a **lymphocyte**. The lymphocytes, which we all have in our body, are the basic cells of the immune system. We need these cells to provide our body with protection against the many types of germs that surround us, viruses, bacteria, parasites, fungi, yeasts and others. These lymphocytes normally move around the body in our blood vessels (arteries, veins and capillaries) and similar channels that make up our lymph or lymphatic system. The lymphocytes also migrate out of our blood and lymph vessels into all the tissues of the body because all these areas need protection from germs. Large numbers of lymphocytes are found in the organs that provide us with a barrier against the outside world such as our skin or the lining cells of our mouth, nose and throat or the lining of our stomach and intestines. We have about 10 trillion (10,000,000,000,000) lymphocytes in our body.

When a cancer develops from one of the lymphocytes it is named for the major part of the body in which the malignant lymphocytes accumulate. If the build up of malignant cells is predominantly in lymph nodes or in one of the major organs of the body like the lungs or the stomach the disease is called a **lymphoma**. When the predominant place where the malignant lymphocytes can be found is the blood or bone marrow (the hollow space inside our large bones where we make new blood cells) the cancer is called **leukemia**. Finally, if the malignant cells primarily grow in the bone marrow and the actual substance of the bones themselves and if the malignant cells resemble the fully developed lymphocytes called plasma cells that make antibodies (chemical pincers that attach to and kill germs)

the cancer is called **myeloma**. All of these cancers, lymphoma, lymphocytic leukemia and myeloma come from lymphocytes and can be grouped together as the lymphoid cancers.

The team of doctors who look after patients with lymphoid cancers includes **medical oncologists** (chemotherapy specialists), **radiation oncologists** (radiation therapy experts), **hematologists** (blood specialists), **hematopathologists** (pathology specialists who focus on the blood and lymphoid cancers), **cytogeneticists** (pathology specialists who study the chromosomes and genes inside cells) and **diagnostic imaging specialists** (the doctors who interpret x-rays and scans). Researchers who investigate basic biology of the lymphoid cancers include **molecular biologists** (focus: how do cells work), **genomics experts** (focus: how does the structure of the entire human genome affect how cells become malignant), **bioinformatics specialists** (focus: how can scientists interpret the tens of millions of items of data discovered in today's experiments on lymphoid cancer cells), **epidemiologists** (focus: how does our environment cause or affect lymphoid cancers), **immunologists** (focus: how does the normal immune system interact with lymphoid cancer), **radiation biologists** (focus: how does radiation eliminate cancer cells), **pharmacologists** (focus: how do drugs, especially chemotherapy, affect lymphoid cancers). Finally the care givers who work as part of the lymphoid cancer treatment team include **nurses, pharmacists, counselors, symptom control specialists, dentists, radiation therapists, chemotherapy nurses, nurse practitioners and students, residents and fellows** studying to become one of the members of this large team.

With so many types of personnel working in the area of lymphoid cancer care and research it became clear to us at the British Columbia Cancer Agency (BCCA) and the British Columbia Cancer Research Centre (BCCRC) that we could all be more productive by working together as a unified team. So we decided to form the **BCCA Centre for Lymphoid Cancer**. This **CLC Newsletter** will bring you news from the Centre on a regular basis.

CLC Newsletter

The CLC Newsletter is meant to provide news of interest to patients, families, health care providers, researchers, donors and all who want to be a part of the effort to find effective treatments for the lymphoid cancers. To be most useful the Newsletter's content should be of direct interest to that audience. You can make the Newsletter effective by letting us know what you want to see in it. Currently planned:

- **Lymphoid Cancer 101** – Occasional articles explaining the basic biology of the lymphoid cancers and how treatments for them work
- **Researcher Profiles** – Short descriptions of the major research projects being conducted by the scientists associated with the Centre
- **Major Events** – Notices of events such as the Lymphoid Cancer Education Day or the Light Up the Night organized by the Leukemia Lymphoma Society
- **Ask an expert** – Send your questions for a lymphoid cancer expert to answer
- **Sources of information** – Where can you go to find out more information about the lymphoid cancers
- **Electronic distribution** – To hold down costs and to be environmentally friendly the Newsletter will be distributed by email. If you know anyone who would be interested in receiving the Newsletter have them send their email address to the Centre's mailbox clc@bccancer.bc.ca

Lymphoid Cancer Education Day April 26, 2008

On April 26, 2008, more than 200 patients, family members and friends interested in the lymphoid cancers gathered in the BC Cancer Research Center for the annual BCCA – CLC Lymphoid Cancer Education Day. Presentations were given by specialists and researchers from the BC Cancer Agency, the BC Cancer Research Center and the BCCA Genome Sciences Center addressing a wide variety of topics including basic biology of lymphoid cancers, causes and inheritance of lymphoid cancers, new treatments and new diagnostic tests for lymphoid cancers and patient advocacy for research and health care funding for lymphoid cancers.

Breakout groups focused on Hodgkin lymphoma, indolent lymphoma, aggressive lymphoma and myeloma allowed participants to ask specific questions and to have an informal open discussion with a lymphoid cancer specialist or researcher. Additional sessions focused on coping with the impact of lymphoid cancer, supportive measures and other topics of general interest to patients, family members and friends rounded out the program.

Strongly positive feedback was provided by participants and all seemed to find several of the elements of the program helpful and interesting. The additional opportunity to network with others affected by lymphoid cancers and to see the array of informational materials from the Lymphoma Foundation Canada and the Leukemia Lymphoma Society were particularly valuable to participants. We will continue to offer a Lymphoid Cancer Education Day annually and welcome input from past and future participants to make it most valuable for all.

Research News

Major award for genomic research on lymphomas

A team of researchers led by Joseph Connors, MD, Marco Marra, PhD, Randy Gascoyne, MD and Doug Horsman, MD has been awarded a prestigious New Frontiers Terry Fox Program Project Grant totaling over \$6 million dollars over the next five years. This renewal grant entitled [Biology of Cancer: Insights from genomic analyses of lymphoid neoplasms](#) will allow them to extend their work of the past three years in which they focused on intense molecular and genomic analysis of follicular lymphoma. The group intends to broaden their focus to include additional B-cell lymphomas and to employ novel cutting edge technology in the areas of genome sequencing, gene expression profiling, immunohistochemical characterization of biopsy material, and cytogenetics. This generous core funding for the lymphoid cancer research being conducted by investigators within the Centre for Lymphoid Cancer from the Terry Fox Foundation will position our team of researchers at the forefront of international efforts focused on lymphoid cancers. Watch for future reports coming from this project as it unfolds.

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