


Challenge

Life with Cancer 

Taking
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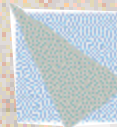
**Spring/
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1998**

How cancer researchers
uncover mysteries of disease

What you can do to prevent cancer

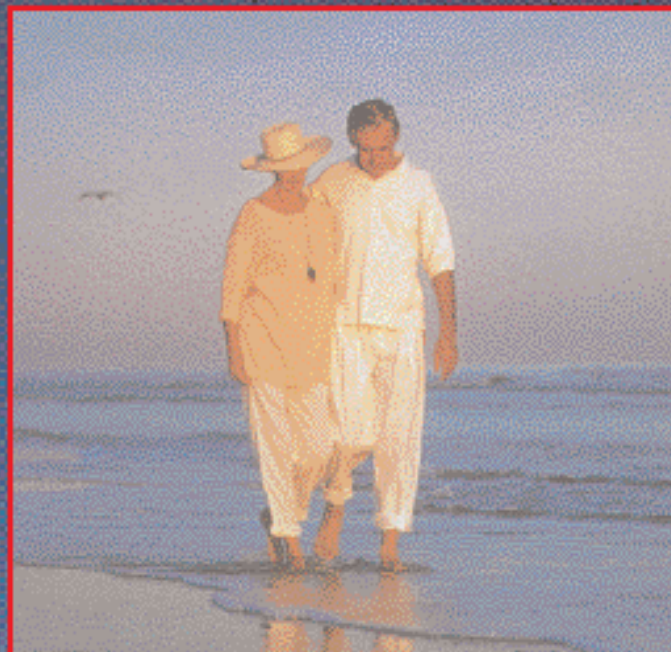
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Letter from the Editor

With the decision to make cancer research the focus of this third issue of *Challenge...Life with Cancer*, designer Chris Macknie and I visited the Research floor of the Regional Cancer Centre on Smyth Road and looked through the microscope ourselves.

That helped bring into focus the inestimable jump from that minute and banal cancer cell under the microscope to the massive disruption of lives caused by this insidious disease.

Chris, who holds an engineering degree, found the visit with the researchers to be a fascinating experience.

We were both overwhelmingly impressed by the devotion, talent and patience of the research staff, whose story begins on page 6.

The direct link between this scientific research and the legions of people for whom finding a cure for cancer is so vital is an invisible and yet omnipresent bond.

Also working towards a cure in another vital way is the Canadian Cancer Society. We're wearing the Society's t-shirts to celebrate their 60-year history, which you can read about on page 21.

We hope that in our Spring issue you will find useful information to involve, inform and inspire you. Please let us know what you think.

Louise Rachlis

Louise
Rachlis



Louise Rachlis, editor and
Chris Macknie, art director

Dear Friends:



Whenever I tour visitors through the Regional Cancer Centre and show them our research labs, they are always surprised and impressed that we have such a large cancer research activity going on here in Ottawa. It seems to be a well kept secret. Well, this issue of *Challenge...Life with Cancer* will unwrap our secret and will give you a better idea of the great work that is being done here by our cancer research scientists.

My fervent hope is that this and future issues of *Challenge* will gradually demystify the disease we call cancer. Currently, a diagnosis of cancer strikes fear into the hearts of patients and their families. Increasingly, there are reasons to be optimistic: there are lifestyles that will reduce one's risk of cancer; there are effective screening approaches for a number of cancers; treatments are steadily improving and new investigational treatment strategies appear realistically hopeful.

To continue to publish *Challenge*, we need your personal financial support and we look to and value the support of Ottawa's business community in continuing this effort to inform area residents about the many aspects of the complex problem, cancer.

W.K. (Bill) Evans, MD, FRCPC
Chair, Challenge Editorial
Advisory Committee



Dear Friends:



It is with great pleasure that I write a letter in support of *Challenge...Life with Cancer*. This edition provides valuable medical information on exciting cancer research taking place right here in our community.

I commend the Ottawa Regional Cancer Centre not only for the excellent care the medical team gives to patients, but also in encouraging lifestyle changes to avoid cancer. The prevention message clearly illustrates how diet, exercise and other factors can play a major role in reducing the risk of cancer.

My sincere congratulations to everyone involved in this excellent publication. We all must take responsibility for building a healthy community. This can be accomplished in two ways: by reading *Challenge* and sharing the message with family and friends and secondly, by supporting it through the business community.

Sincerely

Jim Watson
Mayor
City of Ottawa



Scotiabank is committed to the fight against cancer and the tremendous work of The Ottawa Regional Cancer Centre

By supporting the work of The Ottawa Regional Cancer Centre as well as the work of other cancer research centres across Canada and the Dialogue on Breast Cancer public education lectures, we hope to help in the effort to eradicate this disease.



Designated Hitter

A community representative reports

By Deanna Silverman

Looking back I remember a moment on the flight to Toronto when anxiety ran high and my imagination ran wild. Was I naively joining a power-brokering, wheeling-dealing backroom group? Did I risk being used as a fig leaf for indiscriminate cost cutting with “consumer” consent?

It was September 18, 1995. After two telephone conversations and several briefing documents, I'd flown to Toronto to attend my first meeting as a community representative on the Practice Guidelines Coordinating Committee of the Ontario Cancer Treatment and Research Foundation (OCTRF).

My qualifications for the position? I've been living with the big “C” since 1989 when a diagnosis of breast cancer followed by a modified radical mastectomy, adjuvant chemotherapy and radiation treatments rocked my core. After recovering, I joined Breast Cancer Action. From May 1994 to October 1994 I represented Breast Cancer Action on the Community Co-ordination Working Group of the Provincial Cancer Network and from September 1995 to May 1997 I was its voice on Willow's Community Advisory Committee.

In May 1995 I replied to an invitation to add my name to a pool of potential candidates to serve on an OCTRF committee. I believed in survivor voices and in shared patient/doctor decision-making, starting at the top and extending throughout the cancer care community.

So there I was. Uncertain. Anxious to contribute. Anxious to learn. Determined not to be a fig leaf and not to let that demeaning phrase “health care consumer” go by me unchallenged.

As it turned out, the other members of the Practice Guidelines Coordinating Committee who'd been meeting since December 1993 – a pharmacist,

Please help me represent you

If you have comments or questions you want conveyed to corporate headquarters, be in touch. If you are interested in adding your name to

the pool of potential community representatives, I'll happily facilitate the start of that process. Contact me by phone: (613) 592-4404; or e-mail: silvcslt@concentric.net . I look forward to hearing from you.

a nurse, oncologists, researchers – were equally uncertain of what to expect from this new creature, their first community representative. It was to be a joint learning experience undertaken with good will, patience and a dash of humour.

Initially I listened and asked questions – many dumb questions, I'm sure. But with the help and encouragement of the other committee members, I began learning about the world of cancer beyond the breast. Fortunately for my peace of mind, I also realized that much of my pre-cancer work and life experiences, particularly as a researcher manager with the Child Health and Development Study in California and as a special education advocate here in Ottawa-Carleton, was relevant to the overall functioning of the committee.

Within a few meetings the unease dissipated. We came to trust each other's dedication to cancer patients' physical and emotional well-being. We were all committed to the idea that good cancer care meant evidence-based cancer care, i.e. analyzing relevant research and basing recommendations for practice guidelines on the evidence derived from research findings. This process demanded the strict application of relatively new, born-in-Ontario methodology to ensure that any research findings considered as evidence for a particular practice guideline was applicable and met the highest research standards.

I sat on the Practice Guidelines Coordinating Committee from September 1995 to September 1997. During that time practice guidelines for the specific treatments of several cancers sites were reviewed, a few completed, approved and disseminated.

For each, the task I gave myself was to try to walk in the shoes of a patient with that cancer, being offered that specific treatment. I asked myself and, as necessary, the other committee members a series of questions.

I quickly discovered that backroom deals and my imaginary fig leaf had no place in the development and co-ordination of practice guidelines. Though slow and complex, the process is meticulously objective, open, accessible, iterative and free of cost considerations. Costs are left to the policy level, which is where I now sit.

Borrowing from baseball, I'm a designated hitter. The whole team tries to do its best for patients. But I and approximately 30 other community representatives on various committees are there to reflect the patient's fears, ask the patient's questions and, hopefully, express the patient's views.

On April 28, 1997 OCTRF became Cancer Care Ontario (CCO), with an expanded mandate to create and administer an improved cancer care system. Today I sit on CCO's New and Emerging Drug Policy Advisory Committee. That story will appear in the next issue of *Challenge*.



Deanna Silverman is a writer, consultant, educational advocate and volunteer. She is the

author of the booklet *Lymphedema: A Breast Cancer Legacy*

The Discoverers

*Charting the unexplored
in the search for a cure*

by Dr. Michael McBurney
and
Dr. Barbara Vanderhyden

People come to the Ottawa Regional Cancer Centre to be treated for cancer and it is here that they expect to receive the best and most up-to-date therapies. The medical staff of the Centre is continuously improving the procedures used to treat their patients by incorporating into their practice the latest drugs, diagnostic procedures, and radiation methodologies. Where do these innovations come from?

Some of the new ideas and methods are emerging from the Centre itself, where a group of scientists work alongside the medical staff to uncover the mysteries of the diseases we call cancer. Their mission is to make and to exploit these discoveries, to improve the methods available for the detection, diagnosis, and treatment of cancer. The seven individuals in lab coats pictured on the front cover of this magazine are senior scientists who work in the ORCC laboratories. Who are these people and what are they doing in the cancer centre?

The Cancer Research Group

All our scientists are doctors – some are trained as physicians (they are MDs) and some are trained in other disciplines like biochemistry and molecular biology (these are the PhDs). Eight senior scientists at the Centre work with a dedicated and talented collection of technicians, grad-

Graduate student Paola Blanchette carefully adds nutrients to the embryonic cells that she is growing.

uate students and post-doctoral fellows in laboratories on the third floor of the ORCC General Division. In total, about 60 individuals work in these laboratories. This team of researchers has been assembled to take on the challenge of cancer, but where to start?

Over the past 20 years, we have learned a great deal about what causes cancer. We know that cancer arises in cells of the body when changes occur in certain genes in these cells. If we knew what these genes do in healthy cells, we should be in a better position to exploit the differences that exist between normal and cancer cells. The ORCC research team initially set out to determine the normal function fulfilled by the cancer-causing genes by studying the roles played by these same genes in normal mouse embryos. Cells in the embryo share some characteristics with tumour cells – relatively rapid growth for example – but cells in the embryo remain organized and develop in an orderly fashion into the tissues and organs of the body. Cancer cells fail to respond to the cues from their environment that

tell cells how to behave. Research from the ORCC has shed light on some of the signals that are involved, how cells normally receive these signals, and how they normally respond.

For example, research from Dr. John Bell's laboratory has indicated that the behaviour of cells is changed when certain proteins in these cells become modified by a process called phosphorylation – the orderly addition of phosphate to the protein. Some gene mutations that result in cancer seem to affect the cell's ability to carry out these phosphorylation modifications. Using the techniques of biochemistry and molecular biology, Dr. Bell and his team have found that abnormal phosphorylation in cancer cells affects the most fundamental decisions that cells make – namely to grow, to rest, or to die. In working out the pathways used by the cell for decision-making, Dr. Bell's team discovered new cancer-causing genes. This is an important discovery, but the team is now forced to acknowledge that an already complicated process has become even more complex. It is not uncom-

– photos by Patrick Doyle

mon for research projects to lead in unforeseen directions and reveal the workings of the cell to be far more complex than seems conceivable.

From bench to bedside

As our researchers chart these previously unexplored parts of the cell, they are constantly on the lookout for opportunities to exploit their acquired understanding to the problem of cancer therapy. A good example of how this is being done comes from the work of the newest scientist to join our research group, Dr. Ian Lorimer.

Dr. Lorimer's group is working on a strategy to "target" toxic drugs exclusively to cancer cells. They are making use of the fact that many cancers of the brain, breast and ovary have a unique protein on their surfaces. In fact, this unique protein is probably the cause of the cancer and it is heavily involved in the protein phosphorylation reactions that are the subject of Dr. Bell's studies. Dr. Lorimer is using the most sophisticated techniques of biotechnology to create a drug that will only enter and kill the cells that have this unique cancer-causing protein. He starts with an antibody, a molecule made by the body when something foreign like an infection or a cancer shows up. Dr. Lorimer's antibody binds exclusively to the unique protein on cancer cells. He has linked a powerful drug to the antibody and in this way is able to direct the drug to the cancer cells that carry the unique protein. Are we ready to try this drug in people? Not quite yet. The drug seems to work better in the lab than in people, so improvements



On the cover: ORCC scientists (front) Dr. Barbara Vanderhyden, Dr. John Bell; (middle) Dr. Cheng Ng, Dr. Douglas Gray, Dr. Michael McBurney; (back) Dr. Chaim Birnboim, Dr. Ian Lorimer. Absent: Dr. Harry Atkins.

Take a virtual tour of the research lab on our website at www.uottawa.ca/~cancer/cncrmain.html



Technician Manon Dubé at a high-power microscope she uses to watch cells as she injects them with a newly-discovered gene. Her method will help to determine whether the new gene can cause or prevent cancer.

in its design are called for and Dr. Lorimer is back at the bench. He is currently using genetic engineering techniques to improve this new therapeutic agent for cancer with the ultimate goal of testing this new treatment in patient clinical trials at the ORCC.

Who pays for research?

Research by the scientists at the ORCC is funded from a variety of sources. The provincial government through Cancer Care Ontario provides infrastructure support – the laboratories, equipment, heat and electricity. However, the research projects themselves must be supported by grants. These research grants come from charitable foundations such as the National Cancer Institute of Canada, the research wing of the Canadian Cancer Society. Government is another source of research grants – the Medical Research Council of Canada is particularly important. However, with governments cutting back on research funding, research grants have become extremely competitive; there is simply not enough money to support all of the excellent research that goes on in Canada, and at the ORCC. In order to maintain their research programs, our scientists are now forced to pursue alternative sources of funding through venture capital organizations and the pharmaceutical industry. Another important new development on the research scene is the emergence of the ORCC Foundation, a community-based volunteer organization dedicated to the support of research, education and patient services at the ORCC.

High calibre research

Although the quality of the research pursued by the scientists at the ORCC will ultimately be measured by the number of lives that benefit from the development of new methods for cancer detection or treatment, milestone achievements by the scientists and graduate students are frequently recognized. Most recently, graduate student Angela Tonary was awarded the Judith E. Raymond Award for her research into ovarian cancer, and Peter Duncan was honoured with the Doctoral Thesis Prize, this year's highest honour for thesis work in the sciences at the University of Ottawa.

The scientists at the ORCC are pursuing the unknown, which is sometimes difficult and always challenging. Despite the wide range of research areas they investigate, and their different skills and talents, they share a few common features: enthusiasm and diligence. And, most importantly, they all share the desire to follow a research project through to a gratifying end where patient screening, diagnosis or treatment can be improved.



Dr. McBurney is the Director of Research at the Ottawa Regional Cancer Centre and a professor in the Department of Medicine at the University of Ottawa.

Dr. Vanderhyden is a career scientist at the Ottawa Regional Cancer Centre and an associate professor in the Department of Medicine at the University of Ottawa.

Technology Transfer

How our research scientists help patients

By Dr. Kelly Butler

Ever wonder who discovered the drugs that sit on the shelves of your local pharmacy or how they were discovered?

For most people, the *who* and *how* are not as important as the *what* – what can they do, for your headache, your ear infection or your child’s rash. The drugs, like many other products, were created by a process called biotechnology. Biotechnology uses our understanding of biological systems to create goods and services. The benefits can be seen in every aspect of our lives – the use of yeast in making bread and beer, the development of disease-resistant plants, or the production of kits to monitor ovulation and pregnancy. The biotechnology industry has grown exponentially over the past several years, with the establishment of about 600 Canadian companies.

For cancer patients, biotechnology means the development of new screening and diagnostic tests and new treatments. The process begins in the research laboratory where, for the cancer scientist, biotechnology means trying to understand enough about the basic biology of cancer cells to develop methods to detect and get rid of them. The cancer scientists at the

Ottawa Regional Cancer Centre hold doctorate degrees (which involves at least eight years of university education) and have a broad range of training from nuclear physics through biochemistry to molecular biology. They often work in collaboration not only among themselves and with physicians at the ORCC, but also with university research communities in Ottawa, across Canada and internationally. These collaborations ensure that discoveries made in the laboratory are translated as efficiently as possible to use in the clinic.

Needless to say, not all discoveries are successfully moved through to patient use. Interestingly, many discoveries are made through serendipity. That is, while proceeding with one piece of cancer research, the scientist’s trained mind may identify an idea or technique that could be applied to another type of cancer or disease altogether. This argues well for “pure” or basic scientific research. Basic research has traditionally been funded by agencies like the Medical Research Council in Canada. Scientists must often submit several grant applications to be successful in the support of their basic research, in large part because this type of funding in Canada has not been maintained at levels equal to those in other developed countries.

The path from the discovery of a new drug or diagnostic tool at the laboratory bench to patient use is often called technology transfer. It sounds simple, but the process takes time, money and hard work. The first step – the scientist makes a discovery – for example, she or he may have found a new way to determine whether an individual patient’s cancer will respond to a particular treatment. This would save a patient exposure to a treatment that won’t work for him or her and permit better use of limited resources. Perhaps a kit can be developed to determine whether the treatment would work. Alternately, a scientist may find a drug which might better treat a certain type of cancer. In either case, the idea must be taken from the discovery stage to a prototype which must then be taken through clinical trials.

The development of a prototype is the next step and it can be very costly. Sometimes this process will involve even the family and friends of the research scientist acting as early “angels.” Angels are investors who are willing to risk their money early on in the development of the discovery, a sort of informal venture capital investment. Universities and research facilities like those at the ORCC have been working to help scientists move discoveries to the prototype stage, but financial resources are limited. The idea or “intellectual property” is the property of the ORCC which provides the research facility, although financial benefit from the discovery, if it is successfully developed, may be reinvested to support that scientist’s continued research.

The earlier in the process the investment is made, the greater the financial risk. Later in the process, more formalized “venture capital” may be invested in developing the drug or diagnostic product. Essentially, venture capital is a medium time-frame invest-



Technician Karen Jardine extracts DNA out of cells from an animal that is prone to developing cancer.

ment in a young firm which is not traded publicly. In return for their investment in the discovery, the venture capital firm acquires partial ownership of the discovery and a proportionate part of profits that may accrue from its development.

University Medical Discoveries Incorporated is a venture capital firm that has supported a project being conducted by researchers at the ORCC for two years in the amount of \$375,000. This project is developing new drugs that should disrupt growth pathways of cancer cells. Once the compounds are identified, their efficacy will have to be tested, a process that will take many years, because each drug must go through several levels of "clinical trials" to achieve regulatory approval required by Health Canada before it may be used on patients. Only after that, will it become available for regular use by physicians in the ORCC.

As might be expected, the closer the discovery comes to clinical trials, the less risky the venture, and the more likely investors are willing to invest. Pharmaceutical companies may be-

come involved in the development process if the drug is thought to have considerable promise, but generally large firms come in further down the investment and marketing chain.

The process of technology transfer costs millions of dollars and can take 10 to 15 years from the time of discovery. That means that a discovery made by a cancer researcher today may not be available to patients until the year 2013, and only then if the process moves forward without any pitfalls. Although this may sound disappointing, the fact is that there are hundreds of potential treatments currently in the pipeline. And in the cancer research laboratories at the ORCC, optimism reigns supreme.



Currently employed with Health Canada, Dr. Kelly Butler is on the Ottawa Regional Cancer Centre Foundation Board and was the Science Editor of the 6th Report of the National Biotechnology Advisory Committee.

Male anatomy on (not over) the Hill

By Gordon Seabrook

On March 10th, Members of Parliament and senators attended an information session on prostate cancer organized by North Vancouver Member of Parliament Ted White.

Research urologist Dr. Martin Gleave described the prostate gland and the diagnosis and treatment of prostate cancer, which one Canadian man in eight will develop in his lifetime.

Some 85 male MPs, senators, and members of the Ottawa Press Gallery were able to take PSA (Prostatic Specific Antigen) blood tests for the presence of prostate cancer.

MP White organized the event,

with the assistance of Abbot Diagnostics, to raise awareness of the seriousness of prostate cancer, and the effectiveness of the PSA test in facilitating early diagnosis.

"More than 4,000 men died of prostate cancer in Canada last year," said Mr. White. He emphasized that men need to lobby both the federal and provincial Health Ministers to allocate more funding to prostate cancer research, as well as covering the cost of routine PSA testing for men over 50. "We men really need to work at getting prostate cancer research funding added to the national priorities list."

Gordon Seabrook is Chair, Prostate Cancer Association (Ottawa-Carleton)



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McIntosh and Watts happy to be 'bearing' gifts

By Louise Rachlis

A cuddly bear named Mac was the answer when the McIntosh Shops decided to help raise funds for cancer research.

"We'd always wanted to do something, but it was hard to decide what to do," says Barbara McIntosh, of McIntosh Shops. "Representatives of all kinds of causes would come calling to the stores asking for help, and money was going out in all directions, without a focus."

The decision to support cancer research began last year at a meeting of McIntosh managers.

"Many women who work for us in the china business are women between 35 and 65; it's a high risk group for cancer," she says. "The obvious thing for us to do because of who we were was to get involved in cancer."

Initially they tried donating a different product every month, with the proceeds to cancer. "It was too complicated."

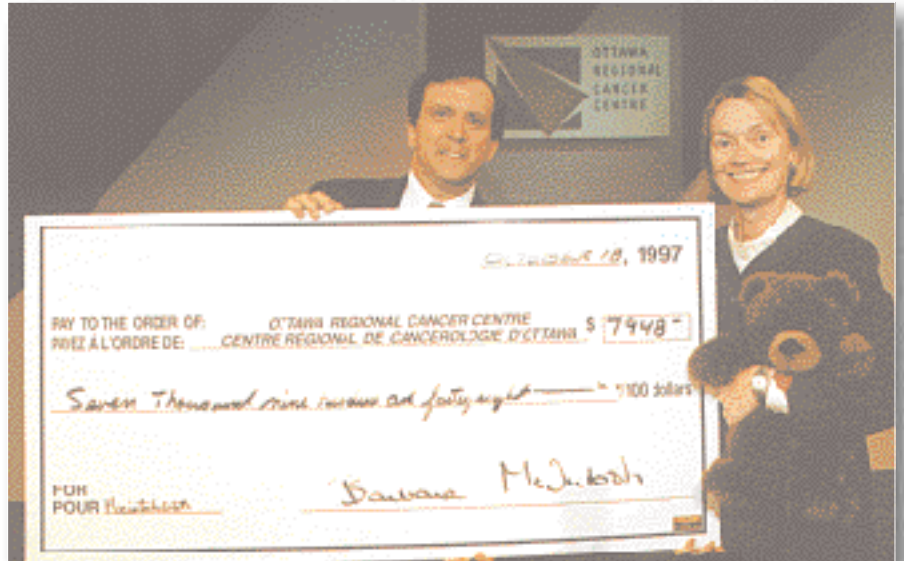
However, a year ago January, Barb McIntosh was at the Gund booth at a gift show in Toronto, and encountered an adorable bear. She was told she could have the bear exclusively for her company if she bought 12,000 of them. She decided on the spot that the bear would be used to raise money for cancer.

The bears arrived in June, and sales began at all the McIntosh stores. Two former Rob McIntosh employees, both of whom had had breast cancer, were asked where they wanted the pro-



- Glengarry News photo

Breast cancer survivors Betty Lee Glaude (left), and Trudy Reuser helped kick off fund-raising campaign at Rob McIntosh China in Lancaster.



- Richard B. Statham Photography

Barbara McIntosh of McIntosh and Watts presents giant cheque to Richard Clayman, 1997 chairman of the Ottawa Regional Cancer Centre Foundation, at the *We Care For Life* telethon last fall.

ceeds of the first month to go. And so Betty Glaude and Trudy Reuser found Linda McGreevy at the Ottawa Regional Cancer Centre Foundation.

Uncertain that cancer *could* be cured, Barb McIntosh had a complete 'conversion' once she did some research herself. She was invited by Linda McGreevy to tour the facilities at the Regional Cancer Centre. "At the Centre, I was just astonished," she says. "I was so excited. I then believed that cancer could be cured."

She decided to devote all the proceeds from her stores across the country to the Regional Cancer Centre Foundation -

more than \$20,000 from the "Mac" bear has already been donated.

For 90 years McIntosh & Watts Ltd. has been bringing fine china, crystal and giftware into Ottawa-area homes. Last fall, five McIntosh & Watts outlets in Ottawa were acquired by Rob McIntosh, owner of a chain of 15 Rob McIntosh China and Crystal shops spread across Ontario. Rob is grandson of Gregory J. McIntosh, who along with his sister Christina E. Watts, founded McIntosh and Watts on Bank Street on February 6, 1906.

Peter McIntosh is general manager of McIntosh & Watts and great grandson of the founder. Ottawa McIntosh & Watts stores are at Bayshore, St. Laurent, Place D'Orléans, 193 Sparks St. and an expanded warehouse store on Holly Lane. "We're going to keep the bear; he's part of our lives now," says Barb McIntosh.

There is even an unofficial fun competition between the 20 stores to see who can sell the most bears.



Reduce your risk: There are steps you can take

By Dr. WK (Bill) Evans

In the last issue of Challenge the evidence concerning tobacco and diet as causes of cancer was presented, and strategies to reduce the incidence of cancers related to tobacco use and dietary habits were offered. The recommendations put forward in that article were derived from the report of the Ontario Task Force on Primary Prevention of Cancer which published its recommendations in March of 1995.

This second article on prevention deals with a number of other causes of cancer which could be addressed by primary prevention strategies. The adoption of the recommendations of the Primary Prevention Task Force would help to reduce the incidence of cancer in Ontario.

The Prevention of Cancer – Part II

Alcohol

Alcohol is recognized to be an important cause of cancer. Approximately six to eight per cent of cancer deaths in Ontario are attributable, at least in part, to alcohol consumption according to the Addiction Research Foundation (ARF). Alcohol is a cause of oral, pharyngeal (throat), laryngeal and esophageal cancers. The cancer risk from alcohol consumption is increased by heavy tobacco smoking. Alcohol also can cause primary liver cancer and may be a cause of breast and colorectal cancers.

Limit consumption

The cancers that are attributable to alcohol are largely preventable, as are the other adverse health, social and economic consequences that are linked to excessive drinking. Adherence to the 1993 recommendations of the Addiction Research Foundation on the amount of alcohol consumed would reduce the risk of alcohol-related problems while potentially reaping the health benefits of moderate alcohol consumption. The ARF recommends that alcohol drinkers limit their consumption of alcoholic beverages to no more than the equivalent

of two standard-sized drinks daily. A standard-sized drink is one and half ounces of 40 per cent strength liquor, 12 ounces of five per cent strength beer or five ounces of 12 per cent strength wine. Those with lower than average body weight should drink less. These guidelines from the Addiction Research Foundation are not well recognized by the general public and there needs to be a greater awareness of what constitutes a reasonable level of alcohol consumption.

In recent years, the alcohol industry has been lobbying for reduced taxation and lower prices for its products. The high level of taxation in Canada has also led to the smuggling of alcoholic beverages into the country. However, just as in the case with tobacco products, pricing policies including the differential rate of taxation on the basis of alcoholic content of beverages, is one of the most effective regulatory mechanisms for reducing consumption of alcoholic beverages. The Primary Prevention Task Force felt that calls for price reductions of alcoholic beverages should be resisted by governments as the societal cost of increased consumption outweighs the economic benefits to the alcohol and hospitality industry.

Similarly, a provincial monopoly on alcohol distribution is a proven deterrent to alcohol-related problems. Although the current Ontario government is considering whether to break up the monopoly held by its provincially-run LCBO outlets, the Primary Prevention Task Force recommended that the government keep its existing monopoly system and resist those proposals that erode controls on access to alcohol. Such controls have been shown to curtail the risks of alcohol-related problems, including alcohol-related cancers.

Continued on page 12

– Ontario Ministry of Health



CAUSES OF CANCER DEATHS IN CANADA

Sun Exposure

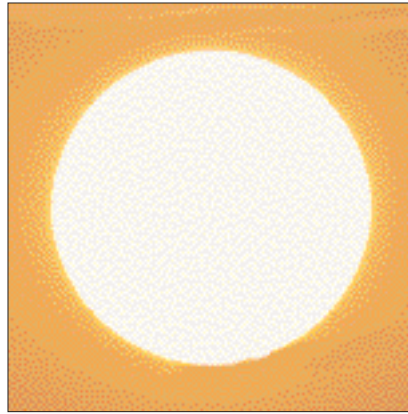
Repeated exposure to the sun's rays (UV-A and UV-B) is the principal cause of all forms of skin cancer. There are two basic types of skin cancer: non-melanoma skin cancers which include squamous cell and basal cell cancers, and malignant melanoma. Although non-melanoma skin cancers can be disfiguring if not treated, they are rarely fatal. On the other hand, melanoma has a propensity to invade and spread to lymph nodes and through the blood stream to distant sites such as the liver or brain. The incidence of melanoma is relatively low compared to other cancers, but it is rising in both sexes in Canada. In Ontario, over 1,400 people develop melanoma annually.

The risk factors for the development of non-melanoma skin cancer include older age, male sex (possibly due to occupational exposures), white skin, skin which tans poorly and burns easily after sun exposure, fair hair and blue or light coloured eyes.

The relationship between malignant melanoma and exposure to sunlight is less direct than the link between sunlight and non-melanoma skin cancers; however, there is compelling evidence that repeated sun exposure and sunburns in childhood is a primary risk factor for the development of malignant melanoma. As for non-melanoma skin cancers, the risk of melanoma is greater for those individuals with light hair, fair skin colour and a tendency to burn easily and tan poorly. The most significant physical risk factors for melanoma are number of moles, freckles and red hair.

Thinning ozone

In recent years, there has been much concern about the thinning of the ozone layer and how this is contributing to the increasing rate of malignant melanoma and other skin cancers. The ozone layer consisted of a band of ozone molecules in the stratosphere which protect the earth and our skin from ultraviolet solar radiation. As synthetic chemicals such as chlorofluorocarbons enter the stratosphere, solar radiation splits ozone into oxygen atoms. Some of these



atoms then interact with the synthetic chemicals instead of reforming as ozone molecules, reducing the amount of ozone present and increasing the penetration of ultraviolet radiation to the earth. Although the international community is phasing out the production of most ozone depleting substances, it is expected that the ozone layer will sustain further damage for at least another 70 years. Environment Canada has estimated that for every one per cent decrease in ozone, there will be a three per cent rise in the incidence of non-melanoma skin cancer.

To reduce the risk of skin cancer, the public would be wise to follow Health Canada's recommendations which include:

- adjust your daily schedule to avoid outdoor activities during peak times of skin exposure;
- seek shade during peak times of sun exposure;
- wear clothing made from tightly woven fabric that offers maximum UV protection;
- use sunscreens if necessary.

Preventive measures

Although these simple measures have been promoted for a number of years, there is still a large segment of the population who are either not informed or have not taken action to protect themselves against sun exposure. It is particularly important that these preventive measures be adopted by children and young adults who are especially vulnerable to the long terms effects of repeated exposure to sunlight. Parents need to be aware of these measures and the health educa-

tion curriculum at elementary and secondary school levels needs to reinforce these ideas.

Although sunscreens have been demonstrated to prevent sunburn, it is not clear that they can actually prevent cancer. While the Primary Prevention of Cancer Task Force supported the use of sunscreens as a means of protecting the skin against UV damage, there was concern that the use of commercial sunscreens may lull people into a false sense of security and cause them to expose themselves to harmful UV rays for long periods of time, while ignoring more effective countermeasures against skin injury. Greater emphasis needs to be placed on the avoidance of sun exposure as recommended by Health Canada.

Infections

Although cancer is not an infectious disease, a number of infectious agents increase the risk of developing certain types of cancers. It is estimated that as much as 10 per cent of cancer worldwide may be caused by infectious agents, although this proportion would likely be much lower in Ontario. A number of different viruses appear to be responsible for the development of a diverse group of cancers.

Hepatitis B virus is a human carcinogen and can result in liver cancer in those individuals who are chronic carriers of the virus. Liver cancer is relatively infrequent in Canada, but is seen among immigrants from China and Africa. A program of immunizing Grade 7 students against hepatitis B was recently introduced in Ontario. This may have some impact on liver cancer risk. As new immigrants to Canada from high risk countries are at much higher risk of liver cancer than Canadian-born people, infants born to mothers who are carriers of hepatitis B should be immunized at birth.



Excessive drinking, repeated sun exposure, infectious agents, increase risk of developing certain types of cancers

Hepatitis C Virus Infection is another cause of liver cancer. This virus is transmitted primarily by needle sharing among IV drug users. Programs designed to prevent virus transmission by this means may reduce liver cancer.

Human Immunodeficiency Virus (HIV) is the cause of AIDS and AIDS increases the risk of Kaposi's sarcoma and lymphomas. Much of the increase in the incidence of lymphomas that has been noted in young men in recent years can be attributed to AIDS. Measures applicable to the reduction of HIV transmission would result in reduced Kaposi's sarcoma and lymphomas.

There is now much evidence that human papilloma virus (HPV) infections of the cervix are a cause of cancer of the cervix. HPV DNA has been found in cells from cervical cancers and mostly it is of a particular subtype of HPV, usually subtypes 16 or 18. The viral DNA becomes integrated into the DNA of the cells that cover

the cervix. In animal models, some subtypes of HPV can induce malignant transformation which supports the idea that this virus is an important cause of cervical cancer. HPV infections of the cervix may first produce mild to moderate cervical dysplasia (atypical looking cells seen on Pap smears) which can eventually either spontaneously disappear or linger and ultimately evolve to cervical cancer.

It is recognized that cancer of the cervix is strongly associated with early age at first intercourse and having multiple sexual partners. The incidence of the disease is much higher among immigrants from developing countries and in native Canadians. The existing evidence suggests that HPV is the sexually transmitted agent responsible for some of this disease. Therefore, measures that reduce sexually transmitted diseases might be expected to reduce the risk of cervical cancer. These would include the use of

barrier contraceptives in those sexually active with more than one partner, reducing the number of sexual partners or practicing monogamy. It would be useful if concepts of cervical cancer prevention and screening were integrated with sexuality education for both men and women in schools and included in health promotion programs directed at adolescents.

For further information on the recommendations of the Primary Prevention of Cancer Task Force, please refer to the report of the Ontario Task Force on the Primary Prevention of Cancer, March 1995. This is a publication of the Ministry of Health ISBN 0 7778-3915.6 Catalogue no. 2228626, Queen's Printer for Ontario, 1995.



Dr Evans is a medical oncologist and the Chief Executive Officer of the Ottawa Regional Cancer Centre.

He was a member of the Primary Prevention of Cancer Task Force which provided a report to the Ontario Provincial Government on strategies to reduce the incidence of cancer in Ontario.

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VON's Home Chemotherapy contributes to positive attitude

By Barbara J. Sibbald

John McCauley knew that keeping out of hospital would help him keep a positive attitude. And thanks to the Victorian Order of Nurses' Chemotherapy Home Infusion Program – CHIP – he could do just that.

On May 23rd, 1997, Mr. McCauley was diagnosed with synovial sarcoma, an extremely rare soft-tissue tumour. He was a very athletic 27-year-old who had barely been married a year. On June 9th his right leg was amputated.

“Given a choice of life or limb, it wasn't much of a decision,” says Mr. McCauley with a grin.

At the time of the surgery, a Hickman catheter was put into his chest in preparation for chemotherapy – a preventative measure to reduce the chances of the cancer re-occurring.

Mr. McCauley, who will soon return to his job as an assistant swimming pool supervisor for the Ottawa-Carleton District School Board received CHIP treatments once a month from July to

November 1997. The program allowed him to stay at home instead of spending a week each month in hospital.

“It's much better this way,” he says, smiling at his wife Janice. “I know how important it is to have a positive attitude. It helps in the healing. Absolutely.”

The CHIP equipment is surprisingly simple and portable, consisting of a pump and a supply of chemotherapy drugs – either in a pocketbook-sized cassette or litre bag. Mr. McCauley's pack was the size of a loaf of bread; other packs resemble a cell-phone. A thin tube runs from the pump into a central venous access device – such as a Hickman – in the chest and the drug is pumped continuously into the vein.

During treatment, Mr. McCauley continued to drive his new left-foot accelerator car, and attend physiotherapy three times weekly to perfect use of a new prosthesis. “It has a hydraulic knee and a flex foot for outstanding shock absorption,” he enthuses. “I should have very little or no limp. I should be able to run and do anything.” He's looking forward to returning to work with developmentally-delayed children.

“The program gives people control over their lives at a time when they feel out of control,” explains VON manager Merry Winters who oversees the CHIP program. “They're completely mobile. They can go out. And because they're at home, they sleep better and eat better.”

It's better for the family too, she says, citing the case of a man in his thirties who has lymphoma. “It was very important for him to be with his children. He would say ‘I'm only sick four days out of the month’ – the time he was undergoing infusion. The minute we unhooked him and put everything in the box, he'd say, ‘I'm not sick anymore.’ And he'd go to his children.”

The CHIP program, which began in March 1995, also has medical advantages. The pump infusion means the chemotherapy drug is introduced into the body slowly, instead of in big doses. This means there are fewer side effects, such as nausea. The drugs may be more effective because they attack the cancerous cells during all phases of cell division.

Unfortunately, like all chemotherapy, the drug also damages other cells, and patients can lose hair and develop canker sores in the mouth.

Mr. McCauley's phantom pain also got worse during treatment and he suffered some nausea. Once he had to call VON late at night. “They were here in 20 minutes. They're definitely supportive,” he says, “24-hour service.”

During treatment, Mr. McCauley was infused with his chemo drug, Ifosfamide, six days at a time, then he was off for three weeks. The length of infusion varies from client to client.

VON Ottawa-Carleton delivers 12 different types of chemotherapy to clients as far afield as Pembroke.

During Mr. McCauley's six-day treatments, VON nurse Beth Meldrum visited him daily to flush the port and replace the medication bag. The process took less than 15 minutes. Each week, she cleansed the vein port and took a blood sample. All CHIP clients have their blood monitored weekly to check their white blood cell, haemoglobin and platelet counts.

Over the months, Ms. Meldrum became part of their life. They left the front door open for her and chatted during the treatment.

Note: Public funding for the CHIP program is limited. It is hoped that increased funding for home health care will make services like CHIP more available to those who need them.



Gaining control: John McCauley and his CHIP equipment.

Breast cancer breakthrough shows tamoxifen might prevent the disease

By Dr. Diane Logan

A U.S. study has shown for the first time that the drug tamoxifen may prevent breast cancer among women at high risk of developing the disease.

A study by the National Cancer Institute, the agency that coordinates cancer programs in the United States, said its six-year study showed that taking tamoxifen cut cancer rates by nearly half among women who were considered at high risk.

The question being studied in the trial was "Could tamoxifen prevent the development of breast cancer and the death rate due to breast cancer in women who had an increased risk for developing breast cancer?" The other question was whether tamoxifen reduced the overall death rate in women taking tamoxifen.

1998 Canadian Cancer Statistics shows cancer burden increasing

An aging population has resulted in a 30 per cent increase in the number of new cancer cases in the last decade, according to statistics released in April by the National Cancer Institute of Canada.

The NCIC also announced an action plan in response to these statistics, which will be reflected in a marked increase in the need for health services:

- ✓ Both the Canadian Cancer Society and the National Cancer Institute of Canada are developing a plan for coordination of cancer control efforts across Canada.
- ✓ Canadian Cancer Statistics is now publishing the number of new cases of cancer per population of 100,000 people for different countries in the world to permit comparison. This may provide clues.
- ✓ Formation of the Tobacco Research Initiative by the National Cancer

What is tamoxifen?


Tamoxifen is an anti-cancer drug which has been used for approximately 25 years. An anti-estrogen, it prevents estrogen from stimulating breast cancer cell growth. Tamoxifen has been used by women with breast cancer to treat breast cancer if it is present, or to reduce the risk of breast cancer appearing in another part of the body in women who have already had a breast cancer surgically removed.

The most significant side effects of tamoxifen are menopausal symptoms such as hot flashes, blood clots developing and appearing in the lungs which can cause death, and the development of cancer of the lining of the uterus.

If you are concerned that you are at increased risk of breast cancer, you should consult your family physician.

The risks and benefits of tamoxifen for each woman with an increased chance of developing breast cancer should be discussed with her physician.

If you have a family history of breast cancer or have had a previous breast biopsy which suggests that you have an increased risk for breast cancer, your family physician could refer you to a genetic counsellor. They can determine your actual risk for breast cancer and assist you and your family physician in deciding how to make use of this new medical information.



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On the Frontier

Basic research: Turning the tide against cancer

By Dr. John Bell, PhD

Because of basic research, over the past 10 to 15 years there have been tremendous advances in our understanding of the genetics and molecular biology of cancer.

We now know that, in general, cancers take a long time to develop. This is because many different types of genes must be mutated in one cell before a life-threatening tumour arises. (see Figure 1)

The great wealth of knowledge which continues to accumulate about the genetics of tumour development is opening many new avenues for treatment and diagnosis of cancer. New tumour-targeted “molecular therapies” are being designed and tested throughout the world (including at the ORCC basic research labs), and there is much optimism in the scientific and medical communities that in the upcoming decades “cancer vaccines,” “gene therapy” and “targeted therapeutics” will turn the tide in the battle against cancer.

In the short term, however, can we take advantage of our newfound knowledge of the molecular biology of cancer to help the patient of today and tomorrow? The answer to this question is quite clearly yes. Understanding the genetic changes that occur during cancer development is providing us with tools to develop new molecular tests that will permit early diagnosis and more accurate monitoring of disease progression. In the following, I will discuss how and why these molecular tests work, and some of the studies currently underway at the ORCC.

Genetic changes in cancer cells

As shown in Figure 1, cancer cells arise due to an accumulation of mutations in the genetic material (or genes) of normal cells. These muta-

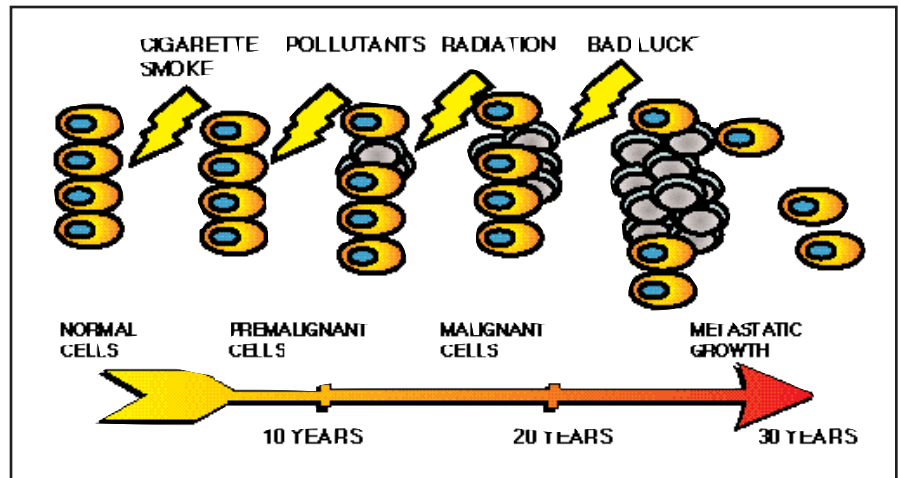


Figure 1: The development of a tumour. In general, it takes several years to decades for a tumour to develop. Several mutations in the same cell must occur before that cell escapes normal growth control mechanisms. The mutations which occur are in genes which control cell growth. Shown above are just some of the known causes of genetic mutations.

tions may be inherited, but more frequently arise in many different ways over a period of several years.

For instance, there is no doubt that normal genes can be mutated by cancer-causing compounds found in cigarette smoke, industrial pollutants (nickel asbestos, radon) and, of course, over-exposure to the ultraviolet radiation from the sun. Sometimes mutations just arise by “bad luck” due to chance errors in the replication of genetic material.

The mutations which occur in tumour cells affect the many genes which control normal cell growth. Basic research over the last 15 years has revealed the identity of many of the genes which are mutated during tumour progression, and we therefore now know what to look for when trying to identify cells on their way to becoming malignant.

The challenge then becomes trying to find the pre-malignant cell *before* it progresses to a tumour. This a daunting task when you consider that the human body is made up of billions and billions of normal cells. Finding a pre-malignant cell is truly searching for a “needle in a haystack.” The breakthrough technology which has

helped to solve this problem is based upon some of the basic research performed by a Canadian, Dr. Michael Smith from the University of British Columbia. His Nobel prize-winning work led in part to the development of the Polymerase Chain Reaction (PCR) technology which allows the detection of rare tumour cells from minute clinical samples.

This technique takes advantage of basic research on enzymes isolated from bacteria which live in the near-boiling water found in volcanic vents. Using PCR technology, it is possible to selectively replicate millions of times the genetic material from a single tumour cell. Once this genetic material has been “amplified” it is then analyzed to identify cancer-causing mutations. At the ORCC, we are exploiting PCR technology to develop sensitive tests which will help in the early detection of lung cancer and monitoring of relapse in prostate cancer.

Early detection of lung cancer

Nickel refinery workers as a group are at higher risk to develop lung cancer than the general population – like-

ly due to exposure to a variety of industrial by-products. Lab technicians Doris Parolin and Scott Kelso often work long hours fine-tuning some molecular tests that could help identify individuals who are at the very earliest stages of developing lung cancer. Doris Parolin received her MSc degree at Queen's University, and Scott Kelso is a graduate of Algonquin College in Ottawa.

This project, done in collaboration with oncologist Dr. Glen Goss, is based upon the observation that minute amounts of tumour cell genetic material are often found in body fluids (urine, blood, sputum or saliva) of cancer patients. Scott and Doris apply PCR technology to samples of blood and sputum obtained twice yearly from nickel miners in Sudbury. This study, funded jointly by the International Nickel Company of Canada (INCO) and the Steel Worker's Union is aimed at identifying nickel miners at the very earliest stages of their disease when surgical or chemical intervention could be most effective.

Due to the exquisite sensitivity of the PCR technology, we hope to iden-

tify affected individuals at a time when standard screening procedures (for example lung X-rays) are unable to detect abnormal cells.

Monitoring disease in prostate cancer patients

In another project being carried out with oncologist Dr. Juanita Crook, we are using molecular diagnostic tests to try and identify men who have been treated for prostate cancer but may be suffering a recurrence of their disease. In this case, blood samples are processed by PCR technology to identify the rare tumour cell which may have escaped chemical or radiation therapy. The early detection of these cells will allow Dr. Crook to prescribe further treatments at a time when they will be most effective.

Molecular diagnostics: Future directions

While the last decade greatly enriched our understanding of the molecular biology of cancer, it will be pale in comparison to the discoveries that lie just ahead of us. The recent

merging of biological testing with computer chip technology means that, in the near future, the sophisticated testing for cancer-causing mutations that can presently only be done in a high technology research laboratory, could be carried out in a general practitioner's office. It is our hope and vision that pre-cancerous cells could be detected and eradicated long before they are a threat to the affected individual.



Dr. Bell is a career scientist at the Ottawa Regional Cancer Centre, an associate professor in the Department



of Medicine at the University of Ottawa and a senior scientist for the National Cancer Institute.

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Having the facts

Jan Kupecz believes in the patient's right to know

By Louise Rachlis

For Jan Kupecz, genetic counselling has enabled her to make a decision to take action rather than waiting and worrying.

Her family was one of the families involved in the research under Dr. Elizabeth Ives, director of the Medical Genetics Program in St. John's, Nfld., that eventually led to the discovery of the BRCA1 gene.

Married to Joe Kupecz, Jan has two children from her first marriage, a daughter Jennifer, 14, and a son, Patrick, 11. She works as communications director at Balanced Planning Financial Group.

Last year she found out she was carrying a BRCA1 gene mutation, and that meant there was approximately a 90 per cent chance of her getting breast cancer before menopause.

That made making the decision to have a prophylactic mastectomy and removal of her ovaries much less difficult. "The decision was relatively easy because I had gathered the facts. I now feel I've done everything I can to ensure my continued good health."

Since both her children have a 50/50 chance of inheriting the gene mutation, they've been watching very closely what their mother does. "My daughter said to me after the mastectomy, 'will I have to have this done?' My answer to her was that in the next 10 years there will be such progress that I believe there will be other options. Even if there's not, I wanted her to understand that it's not the end of the world to make a decision to have your breasts removed. My breasts are not my life."

She says the reconstruction techniques have been 'marvelous.' She had



three surgeries, the second to have her ovaries removed, the last in February with skin grafts to reconstruct the nipples and areolae. "Life goes on," she says.

"Women should not be alarmist, but neither should they be ignorant. The thing that they need most is information. I'm not someone who waits to have something happen to me. I hope it never gets to the point where they say genetic information should not be disclosed to women. I discovered the facts and have now done what I can to take control of my health and life."

She says a "bizarre" set of circumstances led to her finding out about the prevalence of cancer in her extended family in the first place. Two cousins she didn't know existed were involved with Dr. Ives' program because of the high incidence of breast cancer in their family. They approached a cousin she did know and

introduced themselves as family. Around 1992, she found out her father had a half brother, Joe, a man who has since had breast cancer. "That half brother had 15 children and six were female. Of those six, five had breast cancer," she says. "Two had died."

Her father's two sisters had already died of breast cancer. Jan's father was diagnosed with prostate cancer around this time (BRCA1 mutations can cause this in men). Dr. Ives' group contacted her father and then he contacted all the members of the family. Jan's six siblings – five girls – entered the research program from across North America. They were each asked to contact a genetic lab in each of their respective cities, and she was put in contact with Dr. Alasdair Hunter at CHEO.

They then took DNA samples from herself and her sister, Maureen, who was living in Ottawa at the time. DNA

"It's not the end of the world to make a decision to have your breasts removed. My breasts are not my life."

— Jan Kupecz

was collected from all the other cities and sent on to Dr. Ives' group.

Dr. Hunter also kept DNA for his own research.

"At that time we had to sign the waivers stating whatever came out of the research, we were not necessarily entitled to the results. But we knew that there was a strong probability that there was a genetic predisposition in our family."

Over the next few years, she says, "it was research going back and forth, being in contact with Dr. Ives and finding things out. From our perspective, we always wanted to know. But we understood that research moves at its own pace.

"When they got to the place where the gene was linked and isolated, we were aware of that," she says. "It was extremely frustrating to hear of funding cuts in the middle of being so close."

Eventually the gene was discovered, and they were told. However, the geneticists couldn't tell them right away whether they were carrying it, because it takes a long time to look at the gene. "It was a very exhaustive process, about six months."

They told her family, based on what they saw, that there was a strong probability that they were carrying a BRCA1 gene mutation. Then they had to "sequence" the gene. "They were looking for our specific family mutation and they couldn't find it. It was finally found when they sent the sample to a research team in Utah and they were able to locate the mutation. They duplicated that analysis in Ottawa and Dr. Hunter's group saw it."

By looking at the DNAs again, they could tell each individual who had supplied DNA whether or not they were a carrier. "That could not be done universally, so each individual had to visit their lab independently."

It was an intense meeting with Dr. Hunter, she says, in the form of a counselling session. "There was a very human element to this. This was new



— Dave Chan

Family support: Jan Kupecz is surrounded by husband Joe and her two children, Patrick and Jennifer.

territory. It was difficult."

Dr. Hunter wanted to know what steps she had taken already. Those had included reading everything she could about breast cancer, particularly premenopausal breast cancer.

"At the same time when Dr. Hunter was giving me this information, I found out that my sister, 40, a physician herself, had been diagnosed with breast cancer, although she had had a clear mammogram a year before. Another first cousin, 37, her father's brother's daughter, was diagnosed very shortly thereafter. They have had breast cancer as young as 28 in their family.

"For me, more information is better. We had gone through the thought process and wanted to know as much as we could. We learned that we had a gene mutation, but initially they couldn't find the specific mutation."

The family members were tested twice because it seemed to be such an anomaly that all six members of the family tested positive for the gene mutation. "Of the women only — through my grandfathers — there are 15 women. Thirteen are carrying the mutated gene and nine have had breast cancer." The only four who didn't were Kupecz herself and three of her four sisters.

She decided to explore having a prophylactic mastectomy, and Dr. Doug Mirsky carried out the surgery in July 1997.

"Several factors came into my decision — one, the family tree; two the presence of the mutated gene. Three, how the cancer manifested itself in my family, and four, the success of

screening techniques in pre-menopausal women."

"Mammograms are the best, but they're not perfect," she says. "If you have dense tissue, it's difficult to see. And the cancer is so aggressive it can have metastasized before you detect a lump."

She and her sisters were a support network for each other and shared information and comfort. "We felt that a clear mammogram once a year isn't sufficient. It didn't mean the cancer wasn't growing; just that they couldn't see anything. We had been told when we were diagnosed with carrying the gene that there was a 90 per cent chance of getting breast cancer before menopause."

Her family tree indicated that probability of cancer was very strong — strong enough to take preemptive measures. She says she knows there are advocacy groups against such radical measures. "But they haven't seen my family tree. I've heard so much controversy over whether physicians should be advising women to cut their breasts off. That's not the issue. The issue is having some control. I did not want to wait until I had a cancer diagnosis. For me it became 'mastectomy now' or 'mastectomy and cancer later' . . . What I've done is no guarantee I won't get breast cancer. What I've done is reduce my risk factor down to something more manageable."

As for the future, she and her sisters have agreed to participate in a study by Dr. Steven Narod to track women who have the gene.



Thank You

from

The Ottawa Regional Cancer Centre Foundation



to all those who supported our
We Care For Life Challenge Telethon



The past year was very exciting for the Ottawa Regional Cancer Centre Foundation. One of the highlights of the year was our 1st Annual "We Care For Life" Challenge Telethon which aired on CHRO-TV on October 18 and 19, 1997.

Our major sponsor was Zeneca Pharma Inc. who donated \$210,000 over three years. This funding will be used to support laboratory research in the biology of colorectal cancer, with particular emphasis on the regulation of Thymidylate Synthase (TS). TS is the target enzyme of old (e.g., 5FU) and new drugs (e.g., Tomudex) used in the treatment of colorectal cancer.

Knowledge of the levels of TS and the regulation of its expression can lead to a better understanding of anti-TS drug treatments and will help us to tailor specific therapies to individual patients in order to achieve better results in the control and cure of this common cancer.

On behalf of the Board of Directors, I want to extend our sincere appreciation to everyone who donated to the telethon and made it a success. The money raised will go towards patient care, research and prevention programs at the Ottawa Regional Cancer Centre.

Since our first telethon received such a great response, it will be the signature event each year for the Foundation. The 2nd Annual telethon will take place on October 17th and 18th, 1998 on CHRO-TV and will be aired live from St. Lawrence Centre.

In closing, I hope you enjoy this third edition of Challenge and, as always, we welcome your comments and suggestions.

Yours sincerely,

Theresa McKellar, Chair
Board of Directors
Ottawa Regional Cancer Centre Foundation

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60 years of volunteerism

The Canadian Cancer Society celebrates people helping people

By Jean Seasons

When the Canadian Cancer Society was formed 60 years ago, only one in five patients treated for cancer recovered successfully. Today that number is one in two.

Sixty years ago, most people went through their cancer diagnosis and treatment in isolation and with little information available to them. Today, the Canadian Cancer Society has programs to help alleviate the fear and confusion of a cancer diagnosis.

April has always been a special time of year for the Canadian Cancer Society, as canvassers go door-to-door and volunteers sell daffodils to raise money to fund cancer research, patient services and prevention programs.

But this past April was more special than most, as the Canadian Cancer Society celebrated 60 years of service to Canadians by holding a fundraising birthday party April 4th in the Grand Hall of the National Gallery of Canada.

The party marked the long way the Society has come, and honoured its team of volunteers – who for 60 years has made its mission “the eradication of cancer and the enhancement of the quality of life of people living with cancer.”

The Canadian Cancer Society is a national, community-based organization of volunteers who receive no government or United Way assistance. It is a case of people helping people – in the most meaningful way.

The Society got its start in the year before the outbreak of World War II. In 1938, the Canadian Medical Association, with lay groups in the provinces and the trustees of the George V Jubilee fund, acted to form the Canadian Cancer Society. Their

aim was to help bring cancer patients into doctors’ offices earlier and to demystify the disease.

The renewed vitality and the post-war economy led in 1947 to a joint initiative by the Society and the Department of National Health and Welfare – to coordinate and correlate the efforts to find answers for the disease, and to reduce the toll it was taking on Canadian lives.



– Chris Mikula, Citizen

Through the years: Barbara Hollander heads out in her special car in April 1980.

Research arm

The National Cancer Institute of Canada was formed as the research arm of the Canadian Cancer Society. Its mandate has always been to initiate and support cancer research through grants and fellowships in Canadian universities and medical centres. It is a group of peers who evaluate the best projects in the drive to control and eventually eliminate cancer, and to determine their funding.

Half of the money raised by the Canadian Cancer Society volunteers goes to fund research which is decided by the National Cancer Institute of Canada. In a city like Ottawa – with its excellent clinical laboratories and medical facilities – the amount raised

locally generally stays here for the many projects that are now in the works. They, in turn, benefit all Canadians. Today the Canadian Cancer Society is the largest single funder of cancer research in Canada.

The other half of the funds is earmarked for Canadian Cancer Society programs which enhance the lives of cancer patients, lead to public awareness, and influence health policy.

Where all these programs really matter is the impact they have on the people who have cancer, their families and friends, and the people who want the knowledge to help them prevent the disease. That is when the statistics take on real, human meaning.

Among Canadian Cancer Society programs are support groups and peer support programs such as Reach to Recovery and CanSurmount, where people can air their feelings and problems with “people who have been there,” a free wig service, and a volunteer transportation program to help people get to their appointments and treatments.

The Cancer Information Service is another Canadian Cancer Society program providing information to cancer patients and their families through a national toll free number. The Canadian Cancer Society also offers many pamphlets, booklets, and audio-tapes on cancer, its treatment, coping skills and other information, all free of charge.

If you are interested in volunteering with the Canadian Cancer Society, please contact your local unit office or in Ottawa call 723-1744.



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Light, healthy vegetarian recipes to tempt all food lovers

For our food column in this issue, we're pleased to present two recipes from *Rose Reisman's Light Vegetarian Cooking*.

Canadian cookbook author Rose Reisman published her first cookbook, *The Dessert Scene*, in 1988, followed by eight bestselling culinary titles which have established her reputation for simple, healthy, low-fat recipes.

She has more than 600,000 cookbooks in print.

Reisman's trademark is delicious recipes that minimize cholesterol and fat content, while offering enhanced

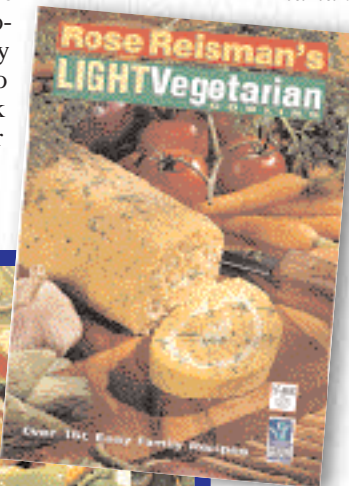
flavour through the versatile use of seasonings, spices, and low-fat substitutes.

With her emphasis on dishes that are even more enjoyable than they are healthy, Reisman has been in the vanguard of the ongoing revolution of our eating habits and a significant contributor to the movement that promotes a healthy lifestyle as key to reducing the risk of cardiovascular disease and cancer.

Since 1993, Reisman has lent her efforts to the continuing struggle against breast cancer by making her books available as fundraising tools for breast cancer organizations. So far, her books have raised over \$500,000.

A percentage of the sale of all copies of *Rose Reisman's Light Vegetarian Cooking* will be donated to cancer research.

Rose Reisman's Light Vegetarian Cooking is published by Robert Rose Inc.



Rose Reisman



Oriental Vegetable Salad

| | | |
|-----------------|---|--------|
| 2 1/2 cups | trimmed green beans | 625 mL |
| 2 cups | asparagus cut into 1-inch (2.5 cm) pieces | 500 mL |
| 1 1/2 cups | halved snow peas | 375 mL |
| 1 3/4 cups | bean sprouts | 425 mL |
| 1 1/2 cups | sliced red bell peppers | 375 mL |
| 1 cup | chopped baby corn cobs | 250 mL |
| 3/4 cup | canned sliced water chestnuts, drained | 175 mL |
| 3/4 cup | canned mandarin oranges, drained | 175 mL |
| Dressing | | |
| 4 tsp | soya sauce | 20 mL |
| 4 tsp | rice wine vinegar | 20 mL |
| 1 tbsp | olive oil | 15 mL |
| 1 tbsp | honey | 15 mL |
| 2 tsp | sesame oil | 10 mL |
| 2 tsp | toasted sesame seeds | 10 mL |
| 1 1/2 tsp | minced garlic | 7 mL |
| 1 tsp | minced ginger root | 5 mL |

1. Boil or steam green beans and asparagus for 2 to 3 minutes or until tender-crisp; drain. Rinse under cold water and drain; transfer to a large serving bowl.
2. Boil or steam snow peas 45 seconds or until tender-crisp; drain. Rinse under cold water and drain; add to serving bowl along with bean sprouts, red peppers, corn cobs, water chestnuts and mandarin oranges. Toss to combine.
3. In a small bowl, whisk together soya sauce, vinegar, olive oil, honey, sesame oil, sesame seeds, garlic and ginger. Pour over salad; toss to coat.

Cold Two-Melon Soup

| | | |
|---------|-----------------------------|--------|
| 6 cups | cubed ripe honeydew | 1.5 L |
| | or other green melon | |
| 2 tsp | grated lime zest | 10 mL |
| 1/4 cup | freshly squeezed lime juice | 50 mL |
| 1/4 cup | granulated sugar | 50 mL |
| 3 cups | cubed ripe cantaloupe | 750 mL |
| 1 tbsp | orange juice concentrate | 15 mL |
| 1 tsp | grated orange zest | 5 mL |
| | Mint sprigs | |

1. In a food processor purée honeydew melon, lime zest, lime juice, and 2 tbsp (25 mL) of the sugar until smooth. Transfer to a bowl.
2. Rinse out bowl of food processor. Add cantaloupe, orange juice concentrate, orange zest and remaining sugar; purée until smooth. Transfer to a separate bowl.
3. Chill both soups 30 minutes or until cold.
4. To serve, ladle 1 cup (250 mL) green soup into each of 4 individual serving bowls. Carefully pour 1/2 cup (125 mL) orange soup into the center. Garnish with mint sprigs and serve.

The Ottawa Regional Palliative

By Cynthia Nyman Engel

"In time of trouble avert not thy face from hope, for the soft marrow abideth in the hard bone."

In the morning, Rene Brazeau rides a scooter from his hospital room down to the main lobby to pick up a copy of the day's newspaper.

When he's up to it, he devotes part of the afternoon to a scooter-tour of the entire main floor. Last Tuesday, he was well enough to don civilian clothes and spend an afternoon outside the hospital playing cards with friends. Rene Brazeau has a terminal illness. He knows it. He accepts it. And, by his own admission, Rene Brazeau is feeling a whole lot better than he was on the mid-March day that he was admitted to the Ottawa Regional Palliative Care Centre (ORPCC). The ORPCC is located in the Bruyère Pavilion of the SCO Hospital in downtown Ottawa.

"I'd been in and out of hospitals since November," the 72-year-old cancer patient says. "When I came into the Centre I was so depressed I was seriously considering suicide. But, within 10 days the staff here had me out of danger. The doctor recognized my depression and immediately brought on a psychiatrist who prescribed medication that works and I'm feeling much, much better.

"You know," Brazeau says, "nobody wants to die but you've got no

choice. The people here are trained and educated to deal with the dying and their care is the very best."

Caring for the terminally ill is a total team effort in the 45-bed palliative care centre at the SCO Hospital. The ORPCC was created in 1983 in response to the rapidly expanding need for palliative care services in Eastern Ontario. Demand for these services is expected to rise by 40-50 per cent in the next decade. The mission of the ORPCC is to decrease suffering and enhance the quality of life for people with terminal illness. Doctors, nurses, psychologists, social workers, volunteers and others combine their individual and collective skills to make the end of life as pain-free, comfortable and meaningful as possible for the patient and the grieving family.

According to Diane Hupé, director of operations, the Centre handles more than 800 referrals and 400 admissions each year.

"Our human condition is such that dying is part of it," says ORPCC chaplain Eleanor Monahan. "Sometimes when even all the efforts of the medical profession can't ease the pain, the doctor says to us, 'I think he has total pain.' That's when we go to work addressing spiritual and existential questions with the patient one-on-one, and often, miraculously, the total pain is reduced."

"People facing death aren't really looking for answers," explains Mona-



Sister Eleanor Monahan shares a special moment

han. "They're really just looking to express their feelings and sometimes it's just easier to share those feelings with a stranger than it is with family. And we find too, that when the original family caregiver is freed up from the demands of caregiving, he or she has more quality time with the patient and that's when some very important conversations and exchanges of feelings take place."

"The best time to request a referral for palliative care is when a patient realizes that they have a terminal illness," says Dr. John Scott, director of the Centre. "We try to keep people as alert and pain-free as possible. Stabilizing symptoms allows many of our patients to return to their homes, a nursing home or long term care facility.

"In future, there will be an even greater emphasis on caring for terminally ill people in their home. An important part of our job will be to educate their care providers so that people in our community will be ready for this transition," Scott says.



The Interdisciplinary Palliative Care Team:
Left to right,
Belinda Barnes,
Michelle Scribnock,
Sitte Adem,
Jackie Theriault,
Sister Eleanor Monahan,
Lyse Bedard.

g the process

Care Centre: A place for living



– photos by Patrick Doyle

nt with patient Rene Brazeau.

“And there’s another dynamic going on here at the Centre – a dynamic where patients are teaching the staff. We get a lot of gratitude, a lot of positive feedback.”

Nurse Jackie Theriault agrees. She chose to work as a palliative care nurse because she saw her own father die in excruciating pain before palliative care was available. “Working in palliative care helps me grow as a person,” she says. “You meet so many nice people and their families. You begin to think more clearly about issues in your own life because you get a glimpse of the hereafter that puts everything into perspective.”

Fully aware of what he is facing, Rene Brazeau has chosen to give himself – and his family – the gift of palliative care. At the Ottawa Regional Palliative Care Centre he is kept pain-free and comfortable. He will live out his final days with the support of expert, caring staff, surrounded by loving family and, when the end comes, he will go peacefully and with great dignity.

Admission to the Ottawa Regional Palliative Care Centre can be arranged for symptom control, family respite or to meet more complex medical and nursing needs. Referrals can be made through your physician or health care provider. For more information about referrals or admission call: 613-562-6317.

For more information or to get answers to your questions about palliative care, contact the Regional Pain and Symptom Management Team.

The purpose of the Palliative Care Regional Pain and Symptom Management Team is to enhance the quality of life for people living with terminal illness, and to assist caregivers. They provide telephone advisory service and information on palliative care resources available in the communities of Ottawa-Carleton, Renfrew County, five eastern counties and Almonte and Carleton Place.

For more information or to get answers to your questions about palliative care, contact the Regional Pain and Symptom Management Team at

According to ORPCC chaplain, Eleanor Monahan, “Palliative care is a gift terminally ill persons can give themselves.” Fully aware of what he is facing, Rene Brazeau has chosen to give himself – and his family – the gift of palliative care.

1-800-651-1142 or (613) 562-6398. You can fax them at (613) 562-6394 or view their website at <http://www.pallcare.org/>

To palliate is to give comfort, to lessen the pain or severity of pain without actually curing.

– Webster’s Dictionary

What is Palliative Care?

Palliative care is a unique service whose goal is to provide comfort and compassionate care for persons diagnosed with a terminal illness when the hope of a cure is no longer possible.

The care is delivered by an interdisciplinary team that provides sensitive and skilled attention to meet the physical, psycho-social and spiritual needs of both the patient and the family.

Palliative Care:

- affirms life and regards dying as a normal process

- neither hastens nor postpones death
- provides relief from pain and other distressing symptoms
- integrates the psychological and spiritual aspects of care
- offers a support system to help patients live as actively as possible until death
- offers a support system to help the family cope during the patient’s illness and in their own bereavement.

Medical physicists ensure high precision in radiotherapy

By G. Peter Raaphorst,
PhD, FCCPM

High technology is increasingly being integrated into every sector of our daily lives. One area where this is especially true is in the practice of medicine, particularly in the areas of imaging and radiotherapy.

In the practice of radiation therapy, imaging a patient's tumour exactly is necessary in order to perform precision radiotherapy. While radiation therapy is practiced by a multi-disciplinary team consisting of radiation oncologists, physicists, radiation therapists, and nurses, the physicists play a central role in those processes involving state-of-the-art technology.

Physicists practicing in a medical program are called medical physicists. Some of their principal areas of responsibility and activity are assuring the precise performance of all radiotherapy and imaging equipment, radiation safety, development of specialized radiotherapy plans, introduction and testing of new technologies, integration and networking of computers with imaging and radiation treatment technologies and development of specialized devices for radiation treatment. Medical physicists are also engaged in research involving new and improved radiation treatment techniques and are academically appointed at the University of Ottawa and Carleton University where they play a key role in teaching medical physics.

To become a medical physicist, it's necessary to have a broad knowledge of a number of different areas – such as physics, computers, engineering, anatomy, physiology, radiation physics, and radiation safety legislation.

Educational requirements are: four years for a BSc in physics, five to six years for a PhD, and two to three years of medical physics residency, followed by examination and certification in the Canadian College of Physicists in Medicine.

Beginning with imaging to obtain precise information about the location of the tumour, its size, shape and density, medical physicists play a key role in all steps of the radiation therapy process.

Medical physicists are responsible for ensuring precision operation of imaging devices such as X-ray machines, CT scanners and MRI scanners and are also involved in research and development of improved medical imaging devices and techniques.

Images of the tumour are transferred to a treatment-planning computer, which contains a model of all the radiation treatment machines, based on detailed measurements by Medical physicists of the characteristics of each radiation beam. The treatment planning computer uses sophisticated mathematical equations (algorithms) to accurately calculate the radiation dose delivered to the tumour volume.

The patient's treatment is then simulated on an imaging X-ray unit, which

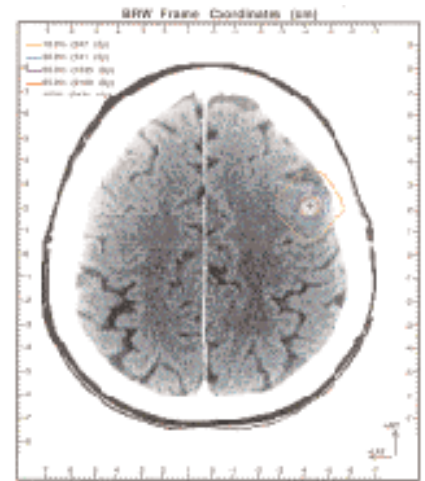


Figure 1: CT image of a brain containing a small tumour

has geometric characteristics identical to the radiation treatment machine. Medical physicists ensure that the parameters of the simulator mimic those of the treatment machine.

Figure 1 shows a CT image of a brain containing a small tumour

Improving the cure

Advanced techniques for new and specialized treatments are also under development and being applied. Here are several of these techniques, which are directly focussed at improving the cure rates for patients:

- At the Ottawa Regional Cancer Centre, we have an extensive program in the treatment of leukemia and non-Hodgkin's lymphoma. This involves irradiating the entire patient to irradiate the cancer which also resides in the bone marrow.

However, through this process of whole body irradiation, the bone marrow is also killed. At the end of this process, when all the tumour cells have been killed by irradiation, new bone marrow is implanted into the patient. For this program, the medical physicists have developed a special computer-controlled bed which moves at precise

speeds under the radiation treatment unit. The radiation beam can be moved from the head to foot of the patient, distributing the dose uniformly throughout the patient, and giving the optimum cancer cell killing.

- Radiation surgery is another area that has been developed by the medical physicists at the Ottawa Regional Cancer Centre. This involves the precise application of minute radiation beams, highly focused onto small brain tumours in order to optimize their treatment and spare surrounding normal brain tissue.

Techniques have been developed for precise alignment of the radiation treatment unit's head, as well as the couch on which the patient is positioned. In order to achieve accuracy, the patient must also be immobilized. A special head immobilizer has been

marked inside the red circle. The coloured lines are computer calculated dose regions. Notice that the dose is focused highly on the tumour (maximizing its destruction) and drops off to only 10 per cent at the orange line, thus sparing normal brain tissue.

Medical physicists are also involved in a number of other specialized radiation treatment techniques which involve placing radioactive needles directly into tumour to maximize their tumour killing effect.

The medical physicists at the Ottawa Regional Cancer Centre are an integral part of the radiation therapy program. Their participation ensures high precision in radiotherapy, with continuous improvements, as new technologies and techniques are developed and brought to bear on the cancer treatment program.



Dr. Raaphorst is head of the Medical Physics Department at the Ottawa Regional Cancer Center; a professor of physics at Carleton University, and a professor of radiology at the University of Ottawa.

rates

developed by the physicists at the Ottawa Regional Cancer Centre. This device allows the head of the patient to be positioned within a fraction of a millimeter and results in the precise targeting of the radiation beam onto the tumour.

- Other devices have been developed to monitor the patient's position during therapy to determine that the position remains unchanged. One such device is the Patient Position Monitoring system. Developed by a team of medical physicists at the Ottawa Regional Cancer Centre in collaboration with expertise from the National Research Council, it is based on a stereo-vision imaging system, which, in turn is based on technology used on the Canada Space Arm as a visioning system.

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Making the right choices

Many benefits to a healthy lifestyle

By Dr. Roanne Segal

As individuals, every day we make active choices about our lifestyle, including whether to smoke, what to eat and how much, and the amount and type of physical activity that we will engage in.

Ultimately, these lifestyle choices determine to a considerable extent the types of diseases we will experience as we age, including whether we develop cardiovascular concerns, diabetes, or osteoporosis. These lifestyle choices also influence whether we will get certain types of cancers.

Over the past decade, an association has been observed between the amount of physical activity people engage in and the occurrence rates of cancers of the colon, female reproductive tract, breast and prostate. It is doubtful that exercise has a specific effect on the development of these cancers, but exercise may influence some of the metabolic processes and hormone levels that facilitate the development or growth of specific types of cancer. The precise way or ways in which hormones and other biochemical processes are related to the development and growth of cancers is complex, and much remains unknown at the present time.

The evidence for a protective effect of physical activity is most clear for colon cancer. A decrease in colon cancer risk has been observed in individuals who work at occupations that require high degrees of physical exertion, as well as in those who report high levels of recreational or leisure time physical activity. In this situation, it is thought that exercise is protective because it increases the rate at which stool moves through the intestinal tract.

As a result, there is decreased contact time between any potential carcinogens (toxins) in the stool and the

lining cells of the intestinal wall. Exercise, however, may have a number of other benefits such as increasing the level of HDL (high density lipoproteins) or the "good cholesterol" in the blood, reducing blood sugar and/or insulin levels and body fat content. Although physical activity reduces the risk of colon cancer, the amount of daily exercise needed and the magnitude of the benefit from exercise is not yet clear.

There is also accumulating evidence of a relationship between physical activity and breast cancer. A recent Norwegian study followed more than 25,000 women over time and found a significant reduction in the risk of developing breast cancer in those who participated either in occupational or

leisure time physical activity. This benefit was especially pronounced for pre-menopausal women under the age of 45. The lowest risk was in lean women who exercised at least four hours per week; their risk was reduced by 72 per cent.

These findings support the results of six other studies reported in the medical literature. The mechanisms by which physical activity may lead to this beneficial effect for breast cancer are still not yet worked out. It is well known, however, that regular exercise alters hormone levels in women, and potentially decreases the lifetime exposure to estrogen, a hormone associated with the development of breast cancer. In addition, however, physical activity can influence energy balance, anthropometric measures (weight, body mass index), and triglyceride levels, all factors associated with the development of breast cancer.

Finally, the propensity to be physically active may be inherited, so that the genetic makeup of the person may also influence both physical activity and the predisposition to breast cancer.

The available evidence indicates that physical activity has a protective effect against certain malignancies and that evidence is increasing. Most likely, a benefit exists at moderate levels of activity, such as vigorous walking for at least three to four hours per week. And it is likely that greater benefits are derived from higher levels of regular physical activity. Here are some suggestions for a healthier lifestyle:



A Norwegian study found significant reduction in risk of developing breast cancer in those who participated in physical activity.

- ✓ Make physical activity a regular part of your daily routine
- ✓ Do not initiate an exercise program without consulting your physician, especially if you have been inactive for many years
- ✓ Regular exercise should start early in life; adolescent girls and young women should be encouraged to engage in moderate physical activity for at least four hours per week
- ✓ Limit the intake of high fat foods, particularly those derived from animal sources
- ✓ Limit consumption of alcoholic beverages
- ✓ Choose most of the foods you eat from plant sources
- ✓ Do not smoke, but if you do, make every effort you can to quit; get advice from your doctor on how to quit

So, regular exercise may help to reduce our risk of acquiring certain cancers, but what about exercise once a diagnosis of cancer is made? Recent progress against many cancers means that many people are living longer

after a diagnosis of cancer and more people are cured. Over half of all newly diagnosed patients with cancer live for more than five years. While these people may be cured of their disease, they are often affected both physically and mentally by their experience with cancer and its treatment. Treatment for cancer can include many different kinds of therapy, such as surgery, radiation therapy, chemotherapy (drugs) and hormonal therapy. Many people with cancer feel that they have to get more rest as they go through these various treatments.

Rest is important, but too much rest can make a person feel even more tired and further weakens the body's muscles. Regular physical activity can help a person feel better during treatment and it can certainly speed recovery once the treatments are over. The following are some simple guidelines to follow:

- ✓ Listen to your body and watch for signals. Each person responds to cancer therapy and physical activity in their own unique way. A baseline fitness evaluation prior to starting your treatment will start you off at the right level of activity.

- ✓ Progress slowly and, again, listen to your body. People who have been active prior to their cancer may need to modify their level of physical activity
- ✓ Avoid moderate to heavy activity on the day(s) you receive your chemotherapy
- ✓ Exercise with a friend or relative; you are much more likely to stick with it
- ✓ Protect yourself from the elements. Chemotherapy and radiation can make you more sensitive to the effects of the sun or cold temperatures

Dr Segal is a medical oncologist at the Ottawa Regional Cancer Centre and the director of the Centre's Fitness Centre. She

and her team are actively researching the benefits of fitness training in patients who are undergoing cancer treatment.



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Ask Kate

A cancer survivor shares her experience

Q: I've just had breast surgery and I think I may have to undergo chemotherapy. What can you tell me about clinical trials?

A: Well, I can share with you what I learned in my own experience with clinical trials, but like most other decisions you will be faced with during your cancer experience, this is a personal choice, and one into which you should not enter lightly.

When I was offered the opportunity to be involved in a clinical trial, I had no idea what that meant or involved. In fact, I thought participating in a clinical trial meant I might be privy to a new, more effective drug that would improve my chances of survival. On my first visit to the Cancer Centre after my surgery, my oncologist asked me if I wanted to participate in the drug trial. She had just presented me with my pathology results, which was a staggering experience, because I'd hoped to hear I would not require further treatment after surgery. The scientific evidence indicated I would need both chemotherapy and radiation. In addition, I had also just seen the surgical scar for the first time. I was feeling a tad unsteady.

I had gone to the hospital alone, unaware that I would have to make several rather demanding and important decisions that day. The oncologist described the standard treatment regimes, and I heard half of what she said and understood a quarter of that. I took notes as best I could on the back of an envelope, which by the time I got home, I had lost. My head was swimming.

After she had introduced the standard options, my physician indicated that there was a trial under way, in which patients took drugs that were not yet standard issue; she asked if I wanted to participate. Now, I'm here to tell the tale almost 10 years later, so deciding to participate may have been one of the better, if one of the least informed choices I've ever made. But, even though I was ill-equipped to make the decision, I felt some pressure to commit and to get treatment under way. So, desperate for something that would

save my soul, I agreed to participate in the trial before I left that first appointment. Here's what that experience taught me:

First of all, I now know that I would never again attend one of these decision-making meetings unaccompanied. I missed much of what the doctor told me because I was shocked, frightened, and confused by what she had to say about my pathology results. I didn't capture the information to consider later, when I was composed, nor did I have the presence of mind to ask many questions I should have asked. I put myself in the position of having to make an intuitive decision.

You would be justified in asking why I seem to regret my choice, when the treatment has been successful to date. Don't get me wrong, I am more grateful than words can say for the treatment I received and for my ensuing health. However, the process was not without its challenges or its risks. In retrospect my haphazard commitment to something of such consequence frightens me.

There were both practical and medical implications to electing to participate in the trial. For example, had I opted for the regular, or gold standard treatment, I would have had to do blood tests once every two weeks during my chemotherapy. However, because I was part of a trial I had to go to the hospital every week for blood work. This may seem like an insignificant inconvenience, but I had to schedule in the time, find and pay for parking, wait for varying amounts of time, and spend double the normal amount of time in a stress-inducing environment. It seemed a significant inconvenience at the time. I have no recollection of knowing about this requirement before I committed to participating and in truth, that extra trip to the hospital was a nuisance that I resented. But there was more...

Every six months, although I had no idea this would be expected of me, I also had to undergo a heart scan that

involved injection of radioactive material and from 45 minutes to an hour under the machine that inquired into the workings of my heart. Apparently the trial drugs could have a deleterious effect on the heart. I hadn't been aware of that either.

When I asked how frequently I would have to undergo this process, I was told for the rest of my life. (Whatever that meant!) Needless to say, I fussed once again, and fumed at not being advised of these additional "drug trial obligations." In the end, they either stopped calling me, or I stopped going. Treatment finally ended, and the inconveniences that had seemed so annoying, no longer seemed important. I felt wonderful.

Then, one morning a couple of years after the conclusion of my treatment the postman delivered a letter that informed me, impersonally, and quite clinically, that women who had participated in my particular clinical trial were being diagnosed with a form of leukemia at unusually high rates. The notice warned me to be on the lookout for bruising, fatigue, and loss of appetite. I was horrified! And yet, in reality I had no right to be surprised. In a moment of uncomprehending, ill-informed desperation, I had taken a chance that the test drug might be the miracle I so wanted. And in truth, I cannot say I made the wrong choice.

At the same time, though, I would never again make such a monumental decision with so little information, and with so little deliberation. I had made a life choice more readily than most people might order from a menu.

My advice is, be open to the opportunity to test a new, possibly more effective drug; welcome the chance to make a contribution. BUT, ask questions; determine what responsibilities you must undertake as a participant; compare those to what would be involved if you took regular treatment; refuse to make a snap decision; con-

Continued on page 31

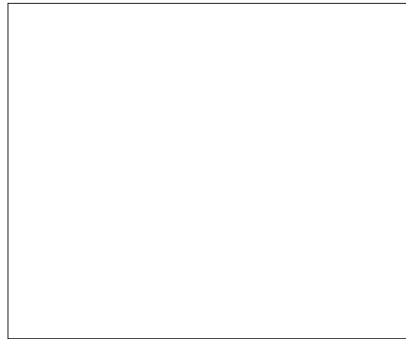
Specialized bookstore helps fill information gaps for cancer patients

By Patricia M. Horner

What if you were a newly diagnosed cancer patient seeking information about your type of cancer. Where would you go to access information to help you understand your illness and what can be done to treat it?

If you live in the Regional Municipality of Ottawa-Carleton you are in luck. A unique bookstore operating out of the Ottawa Regional Cancer Centre is helping to meet the information needs of patients and their families.

Located at the Cancer Centre, Civic Division, the Learn...to Live Bookstore specializes in cancer information. The bookstore has available for sale an impressive collection of books, videos and CDs on subjects such as cancer diagnosis and treatment, nutrition, coping, death and bereavement.



The bookstore finds its roots in a successful consumer information program developed by the staff of the Beattie Library at the Ottawa Regional Cancer Centre.

"The bookstore was the logical next step in the development of our consumer information program," says Jo-Ann Nicol, a bookstore employee. "Patients or their families would borrow material from the library and then want to purchase a copy for their personal use."

Opened in 1995, the bookstore program is intended to provide patients, their families and the public with access to a range of cancer-related information services. It is not a substitute for medical advice.

Based on the response to date, the Learn...To Live Bookstore is helping to meet a growing consumer need for cancer-related information. Consumers, health care institutions and health care professionals across Canada use the bookstore's toll-free number and mail order service to purchase a variety of cancer-related material.



Need more information?

Learn...To Live Bookstore, 190 Melrose Avenue Open Monday to Friday 8:30 a.m. to 4:30 p.m. Telephone: 725-6326 or 1-888-939-4545 E-Mail: lott@cancercare.on.ca

Ask Kate

Continued from page 30

sult with others; read what you can about the "gold standard" and the trial drug. Expect the best, but be prepared for less. Take time to think your choice through and ask the experts who are responsible for your care anything you need to know to make an informed choice. Make use of the Beattie Library located in the Cancer Centre, Civic Division and make inquiries of their helpful, knowledgeable staff.

Every choice with which you will be confronted in your cancer experience will be technical, and deeply personal, and will require delicate balancing. I wish you strength and wisdom as you make this difficult choice.

Kate Murton attends Law School at the University of Ottawa, and teaches part-time for the University's Department of English.

For further information on clinical trials see the Fall/Winter 1997 issue of *Challenge*, page 22, or on the net at www.ottawa-rcc.on.ca

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Plan things to look forward to after treatment

By Richard Seccombe

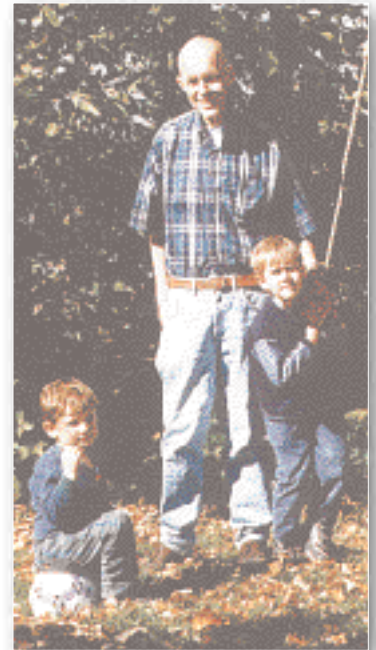
I was diagnosed with non-Hodgkins lymphoma 14 months ago. The diagnosis was almost a relief in that it accounted for my symptoms of abdominal pain and weakness, which had been getting worse over the preceding three to four months. I had been in good shape for nearly all of my 50 years, only taking two days off work for illness in 27 years.

- **Positive attitude:** This was reinforced by supportive friends, family and health care personnel. A caring partner proved to be a major help during the worst side effects.
- **Good health** (apart from the cancer): There are some books by Andrew Weil MD, which I found helpful in this regard, especially on diet. I put myself on a naturopathic diet several months before total body radiation and bone marrow transplant, and I believe this helped me “bounce back” after these heavy-duty treatments.
- **Future plans:** It was vital to me to plan things to look forward to, after the projected end of the treatment regime (and the worst of its aftermath). I went on a trip to the seaside in Maine, with my two younger sons, as soon as I felt able.
- **Keeping busy:** Having a fairly busy schedule during the

seven months of chemotherapy helped take my mind off my major health problem. During that period, I negotiated a separation agreement with my spouse, sold half my business, organized an alumni conference, and supervised a construction project at my office.

- **Read books:** I read quite a number of books and articles on cancer in general, and non-Hodgkins lymphoma in particular. The one I found most helpful and encouraging was *Love, Medicine and Miracles* by Bernie Seigel MD.

Three months ago, I was given the “all clear” on the cancer front. I consider myself very lucky to have been given another shot at a full, independent life. However, I did go through a period of quite severe depression, after all the treatments and follow-up checks were done. This I worked through with some professional counselling, developing an interest in philosophy, talking with friends, getting more physically active – health club, hiking, swimming and tennis – and taking up drawing and painting.



Richard Seccombe:
Full, independent life

Writing down experiences and emotions helps

By Janet Conn

One of my ways of coping was to write down my experiences and my emotions in dealing with breast cancer. I called it “The Longest Week” and these are some of the things I wrote about coping:

I look at Phantom (my big black ball of fur) whom I love so much. He has hardly left my side since the operation. In his usual feline way, he knows and understands.

I made up my mind that if I had to go through this, I might as well do it with as much of a smile as I could and work as much as I could throughout and continue my life – work, dance, time with friends.

I did not need to have any physio-

therapy because I was still ballroom dancing and the posture required for the dances I was doing was good exercise. So my ballroom dancing was the best therapy, both mental and physical.

I took a wonderful course which is offered to all women going through treatment for cancer. It is at no cost to the patient and psychologically it does wonders. It is put on by volunteers who work for various make-up and toiletry companies in Canada and is called *Look Good...Feel Better*. Each participant was given a box of goodies – everything a woman could need – and after the make-up demonstration we were shown different types of wigs and how to look after them. I would not have missed this course for anything. It is nice to know that there is this kind of thing being offered to help women get through

these difficult times. Although I did not go to any other support groups, I know that there are many out there for anyone who feels the need.



Janet Conn:
Phantom her cat was a comfort

Support Groups

continued from page 34

United Ostomy Association

- Purpose: Provides support and education to people with ostomies, and the public.
- Meets the third Thursday of every month, except July and August, 8:00 p.m. - 10:00 p.m., Westminster Presbyterian Church, Lower Level, 470 Roosevelt Avenue.
- Call 722-7944 for more information.

Willow Ontario Breast Cancer Support & Resource Centre

- Purpose: To provide information, support and networking for women with breast cancer.
- Trained volunteers who have experienced breast cancer. Call 1-888-778-3100 for more information or visit the website: www.willow.org

VHL Alliance - Ottawa Area Branch

- Purpose: Dedicated to improving diagnosis, treatment and quality of life for people with von Hippel-Lindau disease (VHL)
- Call Tania Durand (613) 599-7205 (day) for more information (or email: tania@renc.igs.net)
- Toll free US Hot Line Support at 1-800-676-4VHL

Advertorial

Teddiewear™ – Meeting the needs of breast cancer patients

After a mastectomy your priority must be to get back to leading a normal life as soon as you can. So the search begins to find the lingerie that will help you achieve that goal. Teddiewear was designed to meet the needs of breast cancer patients. Developed and made here in Ottawa by Edwina Richards, it offers an alternative to wearing a bra with a silicone breast form. Edwina had met clients who were looking for clothes to disguise the fact that they had lost a breast to cancer. She realised that what they needed was not outer wear but underwear that would help them look and feel good again. So with the help and reactions from clients, she designed and patented the Teddiewear teddie.



To describe it further, Teddiewear is an elegant undergarment, comprising a lightweight stretch bodysuit, incorporating a support brassiere and prosthesis. Its softness and gentle fit is very comfortable for women experiencing postoperative tenderness. Teddiewear can be worn as a complete undergarment, reinstating a balanced feminine appearance. It is suitable for single or double mastectomies and is available in a range of sizes. Edwina can also make a teddie customised to fit those with special needs.

For more information on Teddiewear call Edwina Richards at (613) 730-4265. You can also visit her web site at www.cyberus.ca/~teddiewear – they'll be happy to answer your questions.



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Support Groups and Cancer Information Services for the Ottawa-Carleton Region

About Face

- Purpose: To give support to people with facial difference.
- No regularly scheduled meetings.
- Call Anne Charbonneau at 837-7154 for more information.

Adult Brain Tumour Support Group

- Purpose: Support group for people with brain tumours, and their family/friends.
- Meets the first Wednesday of each month, 7:00 p.m. - 8:30 p.m., Phoenix Network, 2450 Lancaster Road, Unit 36 and 37, Ottawa
- Call Susan Ruyter at 825-5936 for more information.
- Hotline number 1-800-265-5106

Bereaved Families of Ontario, Ottawa Region

- Purpose: Mutual aid/self-help following a death. Also provides education in anticipatory grief situations.
- Meets the first Tuesday of each month, 7:00 p.m. - 9:00 p.m., St. Timothy's Presbyterian Church, 2400 Alta Vista Drive. (downstairs hall)
- Call 567-4278 for more information.

Breast Cancer Action (BCA)

- Purpose: To provide one-on-one peer support, community education and advocacy, and information referral.
- Meets every second Monday of each month, 7:00 p.m., RA Centre, 2451 Riverside Drive
- Call 736-5921 for more information.

Cancer Connections

- Purpose: A toll-free telephone support service that matches people with cancer and caregivers with trained volunteers who have had a similar experience.
- Support is provided within 48 hours.
- Call 1-800-263-6750 for more information.

Cancer Information Service

- Purpose: A toll-free information service to answer your questions and provide information on various aspects of cancer.
- Staffed by professionals and specially trained lay volunteers.
- Call 1-888-939-3333 for more information.

Cansurmount

- (Canadian Cancer Society Program)
- Purpose: To provide one-on-one peer support for patients and/or families. Trained volunteers are matched with clients.
- Call 723-1744 for more information.

Candlelighters Childhood Cancer Trust of Eastern Ontario and Western Quebec

- Purpose: Provide support and comfort items to child patients and their families.
- Meets the first Tuesday of every month, except July and August, 7:00 p.m., Boardroom, MDU, 6 West, Children's Hospital of Eastern Ontario (CHEO).
- Call Severn Blades at 837-3119 for more information.

Caregiver Support Group

- Purpose: For family/friends of people with a diagnosis of cancer, A.I.D.S. or A.L.S.
- Meets weekly, Hospice of All Saints, 18 Blackburn Avenue, Sandy Hill, Ottawa.
- Call 565-4729 for more information.

COU-RAGE Canada - Ottawa Branch

- Purpose: Self-help group for people post-radiation treatment.
- Call Anne at 737-7882 for more information.

Look Good . . . Feel Better Program

- Purpose: For women on cancer treatment wanting to know more about facial skin care, makeovers and options for hair loss. Free workshop.
- Meets the fourth Tuesday of each month except July and August, 2:00 p.m. - 4:00 p.m., Maurice Grimes Lodge, 3rd. Floor, Ottawa Regional Cancer Centre, 200 Melrose Avenue, Ottawa.

or

- Meets the second Tuesday of each month, 2:00 p.m. - 4:00 p.m., Ottawa Regional Cancer Centre, Main Floor, Conference Room D, 501 Smyth Road, Ottawa.
- Pre-registration required for both at 725-6328 (6399).

Mind Over Cancer

- Purpose: A chance to get together and talk/share information with people who are going through the same things you are experiencing. For cancer patients only.
- Meets every Thursday, 7:00-9:00 p.m., Bell United Church (caretaker's house), 384 Arlington Avenue, Ottawa.
- Call Fran Ollerhead 829-8012 or Klaas Korver 828-0753 for more information.

Nu-Voice Club of Ottawa

- Purpose: To meet with fellow laryngectomies to discuss issues of concern and share information.
- Meets the fourth Sunday of each month (Mar.-June/Sept.-Dec.), 2:00 p.m. - 3:30 p.m., Ottawa Civic Hospital, Civic Parkdale Clinic, 1st. Floor, 737 Parkdale Avenue, Ottawa.
- Call 761-4404 or 798-5555 ext. 3416 for more information.

Ottawa Regional Cancer Centre Support Group

- Purpose: Ongoing support groups offered by ORCC Social Workers:

1. *Living for Today* (for men and women with metastatic or recurrent cancer)

- ongoing group
- Wednesdays 10:30-12:00 noon, Solarium, 1st. Floor, Maurice Grimes Lodge
- Call Karen Nelson (737-7700 ext. 6330) for more information.

2. *A Skills Building Group for Men and Women with Cancer* (a group for newly diagnosed men and women - learn meditation, visualization, relaxation techniques).
 - Call Diane Manii (737-7700 ext. 6330) for more information.
3. *Cancer is a Family Affair* (for patients living with cancer, their partners and children)
 - Tuesdays 4:30-6:00, Ottawa Regional Cancer Centre, General Division, 501 Smyth Road, Ottawa.
 - Call Michele Holwell (737-7700 ext. 6855) for more information.

Ottawa Regional Cancer Centre Patient Education Sessions.

- A monthly calendar of education session being offered to cancer patients and their families.
- Call 737-7700 ext. 6788 for more information.

Ottawa-Carleton Regional Palliative Care Association

- Purpose: To improve the quality of care provided to patients, their families, and friends affected by terminal illness.
- For information call: (613) 562-6363

Prostate Cancer Association


- Purpose: Provides support and information, interacts with health community, co-operates with groups having similar interests and promotes awareness of prostate cancer.
- Meets the third Thursday of each month, 7:00- 9:00 p.m. Sept.-June., St. Stephens Anglican Church Hall, 930 Watson, Ottawa.
- Call 798-5555 (ext. 8236) for more information.

Reach to Recovery

- (Canadian Cancer Society Program)
- Purpose: Provides emotional and practical information to women undergoing treatment for breast cancer.
- Meets every Tuesday morning, 9:00-12:00 noon, Ottawa Regional Cancer Centre, Civic Division, Solarium, Maurice Grimes Lodge, 200 Melrose Avenue, Ottawa
- or
- Meets second and fourth Tuesday of the month, 9:00 a.m. - 12:00 p.m.
- Ottawa Regional Cancer Centre, General Division, Conference Room D, Main Floor, 501 Smyth Road, Ottawa.
- Call 723-1744 for more information.

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If you would like your Support or Information Group mentioned in the next edition of Challenge...Life with Cancer contact Lynn Crosbie at 613-737-7700 ext. 6788.



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