



Canadian Cancer Society
Société canadienne du cancer

BREAKING THROUGH

THE POWER OF RESEARCH

Surviving cancer: Today, Ethan Mask and thousands like him are thriving because of your support of the Canadian Cancer Society. Together, we are strong.

The impact we're making | Research across Ontario | New breath of life | Preventing cancer

Let's Make Cancer History 1 888 939-3333 | www.cancer.ca

The Canadian Cancer Society is the largest charitable funder of cancer research in Canada. This year, we're investing more than \$48 million in important projects across the country. We fund research into all types of cancer such as bladder, bone, brain, breast, colorectal, endocrine, head and neck, kidney, leukemia, liver, lung, lymphoma, multiple myeloma, ovarian, pancreatic, pediatric, prostate, skin, stomach, testicular and uterine cancer.

Cancer research: The impact we're making

Research is making a difference!

Advances we've made in cancer research over the past two decades have transformed our understanding of how cancer develops and how to treat it. As a result, cancer death rates have dropped steadily over the last 15 years:

- More than 50% of people diagnosed with cancer today will survive.
- Death rates for childhood cancers have fallen by more than 50% since the 1950s.
- Overall death rates for all cancers declined by 12% in men between 1988 and 2000.
- Overall cancer death rates for women, with the exception of lung cancer, have declined by 15% since 1974.
- Incidence rates for breast cancer have stabilized and death rates have declined steadily since 1990.
- Death rates for prostate cancer in Canada fell by almost 15% between 1991 and 2000.
- Today, many cancers including testicular cancer and Hodgkin's disease have high survival rates and are considered to be effectively controlled.

More Canadians are surviving cancer thanks to research funded by the Canadian Cancer Society.

How we fund cancer research: Your donation is money well spent

When you donate to the Canadian Cancer Society, you are funding the most innovative scientists carrying out research into all types of cancer. Our review process for funding cancer research grants is considered the gold standard in Canada.

Here's how it works:

STEP 1

Each year, hundreds of researchers across Canada apply for Canadian Cancer Society funds through our research partner, the National Cancer Institute of Canada. These applications are subject to a rigorous national review process which has been carefully designed to make sure only excellent research receives funding.

STEP 2

Each research proposal is assigned to one of several review teams, each qualified in specific areas of research. Review teams are made up of research scientists from all over the world, as well as cancer survivors and members of the community with an interest in cancer research.

STEP 3

Following discussions on each proposal, the review teams rank the applications.

STEP 4

The Board of Directors, made up of volunteer members, then makes the final decisions about how many of the highest ranking proposals can be supported based on the funding that is available. In recent years, fewer than half of the projects judged to be highly promising actually received funding.

Imagine the impact if we could fund all promising research.

Surviving cancer

Like Ethan Mask, thousands of Canadians are surviving cancer because of breakthroughs in cancer research.

Just 11 months old when he was diagnosed with retinoblastoma, a serious form of childhood eye cancer, Ethan, of Orillia, Ont., was spared the ordeal of radiation and surgery thanks to research. With funding from the Canadian Cancer Society, Toronto researchers Victor Ling, Helen Chan and Brenda Gallie had uncovered why some patients with retinoblastoma become resistant to chemotherapy. Dr. Chan soon found a way to bypass this resistance so chemotherapy alone would be effective at curing the disease. Ethan was one of the first children to benefit from this treatment.

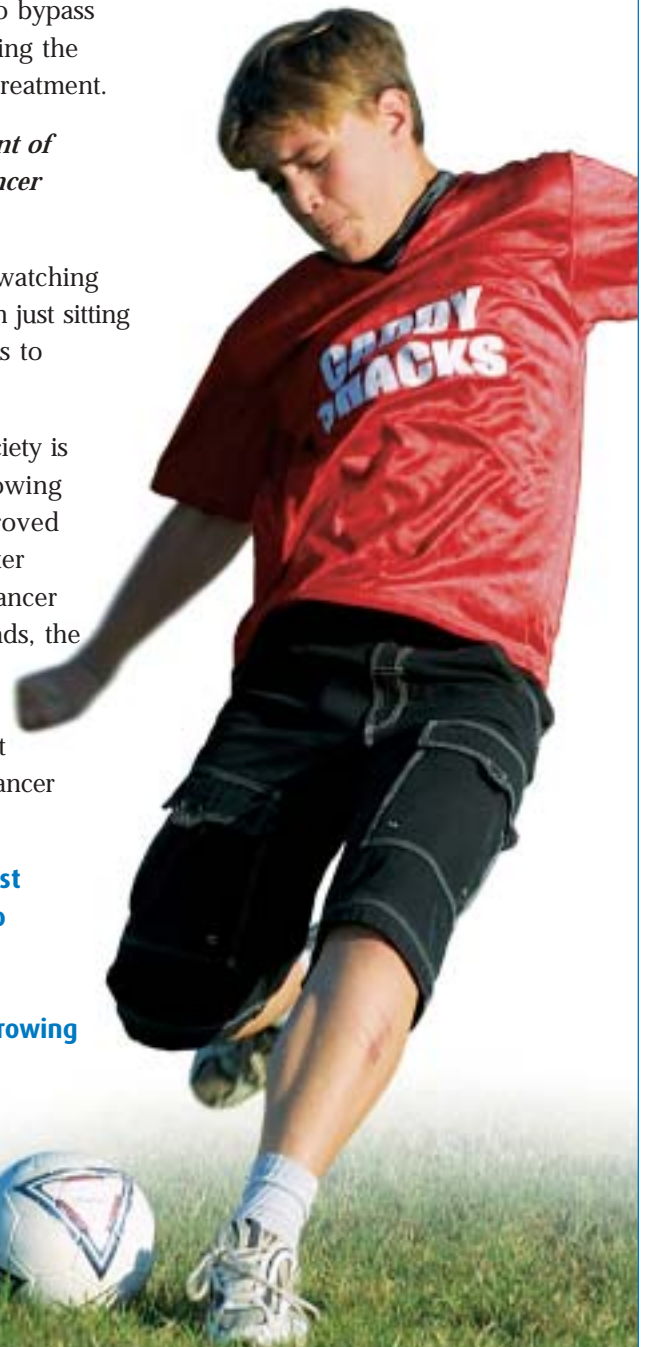
“There have been many advances in the diagnosis and treatment of retinoblastoma and other cancers because of the Canadian Cancer Society,” says Dr. Chan.

Ethan is now an active 12-year-old. “I don’t like staying in and watching TV,” says the sports enthusiast. “There’s so much more to life than just sitting on the couch. I want to get out there and try everything.” Thanks to research, Ethan now has the chance to try whatever he wants.

Like the progress against retinoblastoma, the Canadian Cancer Society is making a difference across all areas of cancer research. Our growing knowledge about cancer is being translated into new and improved therapies, more effective ways to diagnose the disease and better strategies aimed at reducing people’s risk for cancer. Through cancer research, we know more about why cancer starts and then spreads, the importance of detecting cancer early, the role of environmental and lifestyle factors in cancer, harnessing the power of the immune system to fight cancer, new drugs and technologies that make cancer treatments easier to tolerate and what people with cancer say about their experience with the disease.

This is a remarkable time for cancer research – one of the most powerful tools in the fight against cancer. But, there is still so much left to learn and so much to do.

The number of cancer cases in Canada will increase by 60% over the next two decades largely because of our aging and growing population. The Canadian Cancer Society is up to the growing challenge of cancer.



Research across Ontario

RESEARCH IN ACTION

In 2004/2005 the following Canadian Cancer Society-funded research was underway across Ontario:

- 124 research projects
- 88 clinical trials



Among the dedicated researchers in communities across Ontario:



LONDON

Dr. Eugene Wong

Having developed an improved radiation technique called Intensity Modulated Arc Therapy (IMAT), Dr. Eugene Wong is researching how it compares to other radiation techniques in prostate and lung cancer patients. IMAT, similar to other types of radiation treatment, targets cancer cells with high doses of radiation without harming nearby healthy tissue. It is simpler and less expensive than traditional radiation therapy and, if as effective as hoped, could improve radiation treatment for patients across Canada.



HAMILTON

Dr. Lorraine Elit

Reviewing how ovarian cancer patients have been treated in recent years, Dr. Lorraine Elit's goal is to improve surgical procedures, leading to better outcomes for patients. Since the diagnosis of ovarian cancer is not made until after surgery, and as surgery is a primary treatment for this cancer, the quality and consistency of care is very important. Her research will have implications for the planning and delivery of ovarian cancer surgery in Ontario.



GUELPH

Dr. James Kirkland

Studying the effects of niacin (vitamin B3) deficiencies on bone marrow cells, Dr. James Kirkland is learning how low levels of niacin can lead to DNA damage that contributes to the development of cancer. Cancer patients have been found to have low levels of niacin. Through his research, he will better understand how niacin supplementation may be used to improve the toxic side effects of chemotherapy, as well as prevent the development of secondary cancers.



TORONTO

Dr. Robert Kerbel

Recognized internationally for his research on new methods to overcome drug resistance, Dr. Robert Kerbel was acknowledged with the 2004 Robert L. Noble prize for outstanding achievement in cancer research. He has pioneered work in the field of anti-angiogenesis and is currently leading studies on metronomic dosing, a new chemotherapy concept whereby chemotherapy is given to patients at relatively low doses on a more frequent schedule, in hope of improving toxicity, effectiveness, and survival.

THE CANADIAN CANCER SOCIETY IS EVERYWHERE YOU ARE.

Thanks to your generosity, 124 research grants have been funded in 2004/2005 as well as 25 personnel awards in Toronto, Ottawa, Kingston, London, Waterloo and Hamilton. Some 88 Society-supported clinical trials are also being conducted in communities across Ontario. Canadian Cancer Society researchers are breaking through cancer on many fronts.



TORONTO

Dr. John Dick

Searching for new targets for the treatment of leukemia by studying blood stem cells, Dr. John Dick has discovered a new type of leukemic stem cell that lies at the root of one type of acute leukemia. His work has also led to the discovery of a more effective method of transplanting stem cells. His research is unlocking some key secrets about tissue stem cells and is paving the way for major advances in this area of cancer.



KINGSTON

Dr. Michael Brundage

Evaluating the importance of quality of life to patients undergoing cancer treatment, Dr. Michael Brundage is researching whether such information, in addition to that of survival, effectiveness and side effects, influences a patient's willingness to receive chemotherapy. Ultimately, his research will help health care professionals provide patients with the information they want to make informed decisions about their treatment.



OTTAWA

Dr. Ian Lorimer

Searching for more effective ways to treat glioblastoma multiforme, the most common and most aggressive type of brain cancer, Dr. Ian Lorimer has discovered that atypical protein kinase C is a key protein responsible for the growth of glioblastoma cells. His research has shown that removing or blocking this protein makes the cancer more susceptible to chemotherapy. His team is now focusing on why this occurs and whether it has promise as a new treatment.



THUNDER BAY

Regional Health Sciences Centre

The Thunder Bay Regional Health Sciences Centre is currently participating in 19 Canadian Cancer Society-funded clinical trials. Clinical trials give people with cancer access to the newest types of treatment and help find new methods for preventing, diagnosing, and managing cancer. In Thunder Bay, clinical trial options are available for patients with many different types of cancer including, breast, colorectal, prostate, ovarian, uterine, head and neck, lymphoma, lung and melanoma.



Making a difference

This is definitely the best news for lung cancer patients in a long time and will change the standard of care for this disease.

New breath for lung cancer patients

Lung cancer patients are being given a new breath of life thanks to Canadian Cancer Society researcher Dr. Timothy Winton.

Dr. Winton recently found that chemotherapy after surgery keeps lung cancer patients alive longer and does a better job of preventing the disease from coming back than just surgery alone.

“This is moving us forward to a new standard of care for lung cancer,” says Dr. Winton, the lead researcher of the international clinical trial. “The findings could make drug treatment after surgery for people with lung cancer as routine as it is for breast cancer or colon cancer.”

Dr. Winton recently received international recognition for the study when he presented it at the annual meeting of the American Society of Clinical Oncology, one of the most prestigious events in the scientific community.

The Canadian Cancer Society-funded clinical trial involved 482 patients in Canada and the U.S with non-small cell lung cancer – the most common form of lung cancer. After having their cancer completely surgically removed, half were treated with chemotherapy drugs vinorelbine and cisplatin for 16 weeks after surgery and the rest with surgery alone (the previous standard of care). The results showed that patients who were treated with chemotherapy experienced fewer side effects and survived an average of almost eight years compared to only six years for those who had surgery alone. After five years, more than two-thirds of the chemotherapy patients were still alive.

“Lung cancer is most often a devastating disease,” says the Edmonton-based researcher. It is the leading cause of cancer death in both men and women in Canada. An estimated 21,700 Canadians will be diagnosed with the disease this year. “Until now, those diagnosed had only a 30 to 50% chance of survival after five years,” says Dr. Winton.

“In our study, 15% more patients who received chemotherapy survived five years compared to those who underwent surgery alone – a major advance. This is definitely the best news for lung cancer patients in a long time and will change the standard of care for this disease around the world.”

Finding genetic clues

St. John’s researchers Dr. Patrick Parfrey and Dr. Michael Woods are studying Newfoundland’s family tree to help better understand the causes of colorectal cancer. Looking at a select population within Newfoundland, they are examining the genetic makeup of local families to determine family predisposition to colorectal cancer.

“The most important risk factor for developing this cancer is family history,” says Dr. Woods. “Up to 35% of cases are due to inherited alterations in certain genes. Although six of these genes have already been identified, as many as half are still not known.”

With funding from the Canadian Cancer Society, the research team is studying the genes of Newfoundlanders with a family history of colorectal cancer. They are hoping to discover other important areas where gene alterations may be playing a role.

Dr. Parfrey says, “Finding these altered genes would allow more accurate screening which would, in turn, help us identify those in high-risk families and those likely to develop the disease.” Early detection is key to positive outcomes in colorectal cancer.

Colorectal cancer is the second leading cause of cancer death in Canada. In 2004, an estimated 19,100 Canadians will be diagnosed with colorectal cancer and 8,300 will die. Through their research findings, Drs. Parfrey and Woods are hoping to shed more light on our understanding of this disease.

Early detection is key to positive outcomes in colorectal cancer.

The Canadian Cancer Society is enabling researchers, decision makers and healthcare practitioners across Canada to work together to improve all aspects of cancer care.



Preventing Cancer

Simple lifestyle choices may go a long way to reducing the risk of prostate cancer, says Canadian Cancer Society researcher Dr. Marie-Elise Parent.

Dr. Parent is leading one of the largest-ever studies taking an in-depth look at the role different lifestyle and environmental factors play in the development of prostate cancer.

“There is evidence suggesting that what we eat, how much we exercise and what’s in our environment can increase the risk of prostate cancer,” says Dr. Parent. “But until now, there have been few large-scale studies that have been able to pinpoint exactly what these factors are and how they can lead to the disease.”

The Montreal-based researcher is studying 1,500 men with newly-diagnosed prostate cancer and 1,500 men without the disease and asking them fill out a questionnaire about their weight, their physical and sexual activity levels, their smoking habits and their alcohol use as well as their potential exposure to 100 different chemical agents commonly found in the workplace. Dr. Parent and her team will then look for relationships between the development of prostate cancer and the presence of one or more of these potential risk factors.

Prostate cancer is the most common cancer among Canadian men. While death rates fell by more than 15% between 1991 and 2000, the disease and its treatment often leave men with lasting side effects.

Through her extensive research, Dr. Parent hopes to pinpoint the choices men can make to reduce their risk of the disease and recommend preventive strategies that may one day benefit all men.



Family matters

Burnout. It’s a common challenge facing those who care for a loved one with cancer. But Canadian Cancer Society researcher Dr. Kelli Stajduhar is working to ease the caregiver burden.

“Up to 85% of all palliative care in Canada is provided by family members. While some caregivers feel significantly overburdened, others seem to cope,” says the Victoria-based nursing professor.

With her Canadian Cancer Society research funding, Dr. Stajduhar is identifying the strategies used by those who are managing well in the caregiver’s role in order to help others who are finding it more difficult.

Arlene Zuckernick, who cared for her husband during his battle with brain cancer, faced her challenge head on. Zuckernick hopes that by participating in this research study, she can help others to think beyond the stress often caused by caring for a loved one with cancer.

“I found ways to help me deal with the often awesome responsibilities associated with the caregiver’s role; things like regular daily exercise and learning to live for the day.

“I hope that in sharing my story, I can help to empower and comfort others who are in the same situation,” she says.

According to Dr. Stajduhar, more and more family members are becoming caregivers. She hopes that information from her study will determine how to better direct healthcare dollars to such families in need. “This research is really meant to try and figure out ways to prevent people from burning out,” she says.

By funding researchers like Dr. Stajduhar, the Canadian Cancer Society is enabling researchers, decision makers and healthcare practitioners across Canada to work together to improve all aspects of cancer care.



As Canada's largest charitable funder of cancer research, the Canadian Cancer Society is up to the growing challenge of cancer.

The Society funds the most innovative scientists carrying out research into all types of cancer.

More than 200 researchers are working to find answers to improve the lives of Canadians and bring us closer to our goal of eradicating cancer.

More Canadians are surviving cancer thanks to research funded by the Canadian Cancer Society.

The Canadian Cancer Society is a national, community-based organization of volunteers whose mission is to eradicate cancer and to enhance the quality of life of people living with cancer.

We achieve our mission by:

- Funding excellence in research on all types of cancer.
- Advocating for healthy lifestyle public policy.
- Promoting healthy lifestyle strategies for reducing cancer risk.
- Providing information about cancer.
- Supporting people living with cancer.

When you want to know more about cancer:

Visit our website at www.cancer.ca

Call our toll-free bilingual information service at 1 888 939-3333

E-mail us at info@cis.cancer.ca



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