

The Association of Canadian Medical Colleges, The Association of Canadian Teaching Hospitals,
The Alumni and Friends of the Medical Research Council (MRC) Canada and Partners in Research

present . . .

Year 2000

A Celebration of Canadian Healthcare Research



This calendar is brought to you by...

The Association of Canadian Teaching Hospitals

President, Murray Martin, Vancouver Hospital & Health Sciences Centre

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Children & Women's Hospital, Vancouver, B.C.
Calgary Health Authority, Calgary, AB
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London Health Sciences Centre, London, ON
St. Joseph's Hospital Health Centre, London, ON
Sunnybrook Health Sciences Corp., Toronto, ON
The Toronto Hospital & The Princess Margaret Hospital, Toronto, ON
The Hospital for Sick Children, Toronto, ON
Baycrest Hospital, Toronto, ON
Centre for Addiction & Mental Health, Toronto, ON
St. Michael's Hospital, Toronto, ON
Mount Sinai Hospital, Toronto, ON
Hamilton Health Sciences Corp., Hamilton, ON
St. Joseph's Hospital, Hamilton, ON
Kingston General Hospital, Kingston, ON
Children's Hospital of Eastern Ontario, Ottawa, ON
Ottawa Hospital, Ottawa, ON
SCO Health Services, Ottawa, ON
MUHC (McGill University Health Centre) Montréal, QC
Montreal Geriatric Institute, Montréal, QC
Centre Hospitalier de l'Université de Montréal (CHUM), Montréal, QC
Hôpital Sainte-Justine (CHU mère-enfant), Montréal, QC
Centre Hospitalier Universitaire de Québec, Québec, QC
Centre Universitaire de Santé de L'Estrie, Sherbrooke, QC
Issac Walton Killam Hospital, Halifax, NS
Queen Elizabeth II Hospital, Halifax, NS
Region 2 Hospital Corporation, Saint John, NB
Healthcare Corp of St. John's, St. John's, NFLD

The Association of Canadian Medical Colleges represents the Faculties of Medicine at Canada's 16 medical schools....

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Dean, Faculty of Medicine & Oral Health Sciences, University of Alberta

University of British Columbia
University of Calgary
University of Alberta
University of Saskatchewan
University of Manitoba
University of Toronto
University of Ottawa
McMaster University, Hamilton
University of Western Ontario, London
Queen's University, Kingston
McGill University, Montreal
Université de Montréal
Université de Sherbrooke
Université Laval
Dalhousie University, Halifax
Memorial University, St. John's

Alumni and Friends of MRC Canada
President, Dr. Aubie Angel
Professor of Medicine • University of Manitoba

Partners in Research, London, Ontario
Executive Director, Ron Calhoun

1999 National Health Research Awareness Week Task Force Members....

Dr. Aubie Angel • University of Manitoba
Cindy Bayers • Dalhousie Medical School
Linda Bartz • Vancouver Hospital & Health Sciences Centre
Ron Calhoun • Partners in Research
Marie-Claude Chavignac • Université de Montréal
Marcel Chartrand • Medical Research Council of Canada (MRC)
Paul Farumeni & Rosalind Waxman • University of Toronto
Marielle Morissette • Université Laval
Michael Robb • University of Alberta
Gillian Ross MacCormack • McGill University Health Centre

With special thanks to....

Betsy Little, Executive Director, The Canadian Medical Hall of Fame, London, Ontario
Dr. B. Borwein and Dr. M. Hollenberg

A Celebration of Canadian Healthcare Research

As a writer passionately interested in telling Canadian stories, I am delighted by the initiative taken by the Association of Canadian Teaching Hospitals, the Association of Canadian Medical Colleges, the Alumni and Friends of MRC Canada, and Partners in Research to further the knowledge about our leading historical and contemporary medical scientists in this way.

Celebrating Canadian discovery on the eve of a new millennium provides the opportunity to reflect on the historical figures who have contributed to medical science in Canada's first century. It is a chance to remember well-known figures such as Sir Charles Tupper, one of the Fathers of Confederation, who was a physician in Halifax and the first elected President of the Canadian Medical Association, and Dr. Harold Johns, who began the use of Cobalt 60 for cancer treatment. However, the calendar also highlights Dr. Maude Abbott, one of the first women authorized to practise medicine in Canada. The work of Drs. Abbott, Stowe and others led to the formation of Women's College Hospital in Toronto. Meanwhile, on the west coast, Vancouver General Hospital began as a tent hospital in 1886 for workers completing the national rail link.

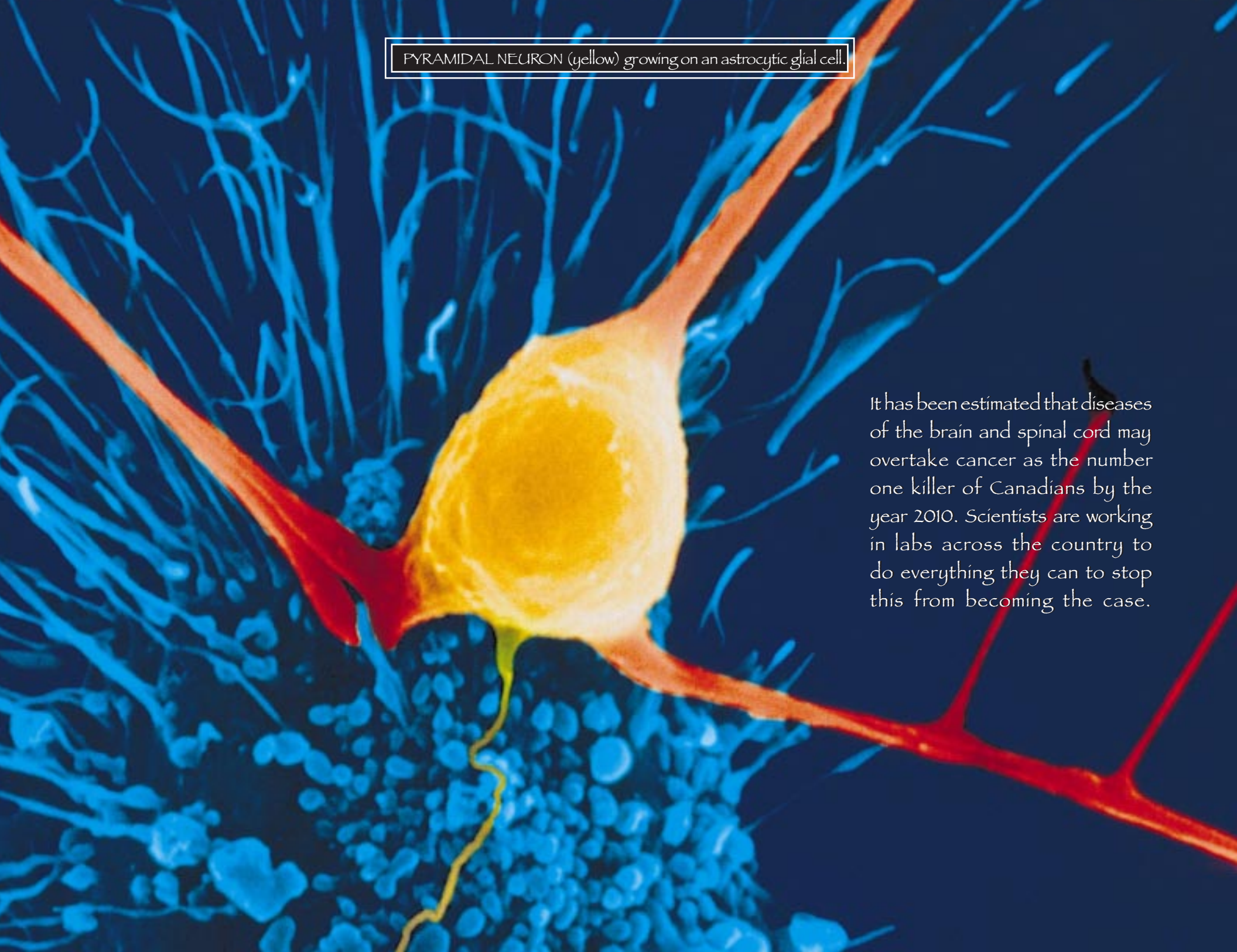
Over a hundred years later the curiosity of brilliant minds has led to Canada's continuing role in medical discoveries. In 1983, Dr. Tak Mak at the University of Toronto discovered the gene for the T-cell receptor, a major key to the workings of the human immune system. Today, Dr. J.W. Yoon at the University of Calgary continues the work of Banting & Best in investigating the cellular and molecular mechanisms for Type 1 Diabetes. At the Université de Montréal, neuroscientists such as Dr. Jacques de Champlain are building on the strong history of brain research. In Winnipeg, Dr. Bruce Chown has contributed to our knowledge about the genetics of blood cells.

As you turn the pages over the course of the year, I hope that you will enjoy learning about this cross-section of Canadian scientists and be reminded of the endless curiosity and commitment of the thousands of men and women who are at work in our universities, research institutes and teaching hospitals. Their efforts stand to benefit the health of us all.



A handwritten signature in black ink, which appears to read 'Pierre Berton'. The signature is fluid and stylized, with a long, sweeping underline.

Pierre Berton



PYRAMIDAL NEURON (yellow) growing on an astrocytic glial cell.

It has been estimated that diseases of the brain and spinal cord may overtake cancer as the number one killer of Canadians by the year 2010. Scientists are working in labs across the country to do everything they can to stop this from becoming the case.

January

• ALZHEIMER'S AWARENESS MONTH
Dates to remember...
Jan. 19-26 • National Non-Smoking Week

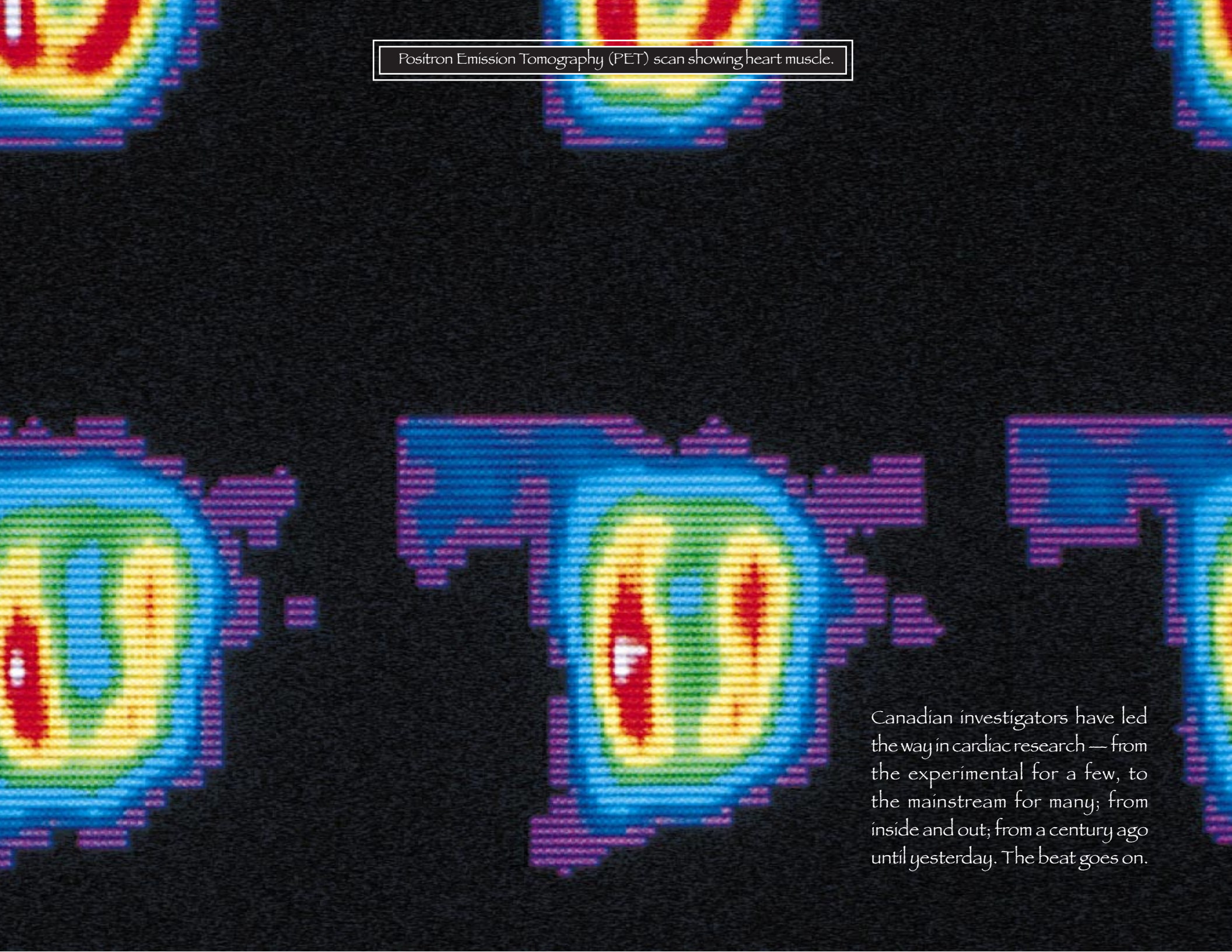


(1891-1976)
DR. WILDER G. PENFIELD

Founder of the world-famous Montreal Neurological Institute with his colleague Dr. William Cone. Dr. Wilder Penfield made research breakthroughs in the understanding and treatment of various forms of epilepsy, and of brain scars resulting from trauma.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						New Year's Day
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

- Dr. Henry Barnett led a multi-centre clinical trial that showed that a tiny pill of aspirin can help prevent a stroke, or "brain attack." During his career he was involved in a number of other breakthroughs relating to stroke, and served as one of the founders of the renowned Robarts Research Institute in London, Ontario in 1992.
- Dr. Donald Calne has led groundbreaking studies involving imaging of the brain with Positron Emission Tomography (PET) scans to provide information on the rate of loss of nerve cells in patients with Parkinson's Disease.
- Dr. Jacques de Champlain is examining the cellular level functioning of the sympathetic nervous system and its impact on several cardiovascular pathologies.
- Dr. David Hubel is a neuro-scientist who started his career at McGill's medical school. With a collaborator he won a Nobel Prize (1981) for mapping the visual cortex of the brain — David Hubel's impact on neurosciences is remarkable.
- Dr. Mircea Steriade is a neurophysiologist at Université Laval investigating the neuronal basis of behavioural control with emphasis on how different parts of the brain interact (the dialogue between the cerebral cortex and the thalamus influenced by modulatory systems).



Positron Emission Tomography (PET) scan showing heart muscle.

Canadian investigators have led the way in cardiac research — from the experimental for a few, to the mainstream for many; from inside and out; from a century ago until yesterday. The beat goes on.

February

• HEART MONTH

Dates to remember....
Feb. 1-6 • Eating Disorder Awareness Week
Feb. 7-13 • White Cane Week

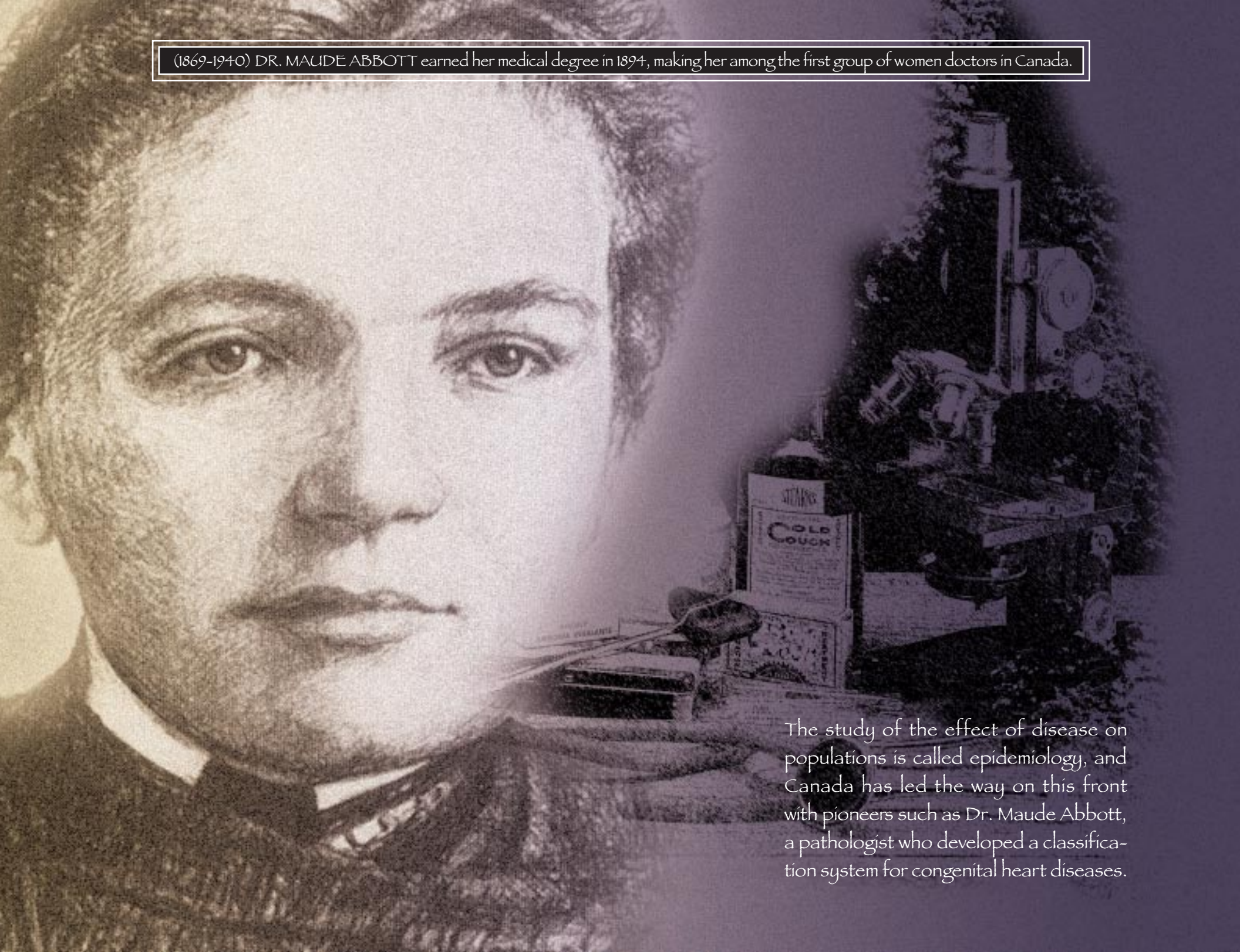


(1849-1919)
SIR WILLIAM OSLER

Sir William Osler, pathologist, used his own dynamic personality as an example to generations of medical students at McGill, Johns Hopkins and Oxford. He moved away from the textbook-only approach to the bedsides of the afflicted. His teaching and texts on this subject helped redefine how clinical medicine is practised today.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
			Chinese New Year			
6	7	8	9	10	11	12
	Valentine's Day					
13	14	15	16	17	18	19
	Heritage Day					
20	21	22	23	24	25	26
27	28	29				

- Dr. Robert Beanlands was a pioneer in the use of Positron Emission Tomography (PET) scanning at the renowned Ottawa Heart Institute.
- Dr. Ray Chu-Jeng Chiu. Knowing that the heart muscle, unlike other muscles, does not need rest, Dr. Chiu set out to find a way to adapt muscle from the back so that it can help a weak heart to function. In an amazing combination of biochemistry and surgery, he accomplished what he set out to do and he now takes his place among medical research pioneers.
- Dr. Joseph Penninger was the first to point to the similarity of bacterial proteins to proteins in the heart. This similarity tricks the immune system into attacking not only the bacteria, but also the heart muscle — a startling key to the early detection and treatment of heart disease.
- Dr. Donald Ricci uses a tiny stainless steel mesh tube, called a stent, to prevent arteries from narrowing or collapsing after cardiac treatments. With colleagues from around the world, Dr. Ricci was a key player in the development of this life-saving device and procedure.



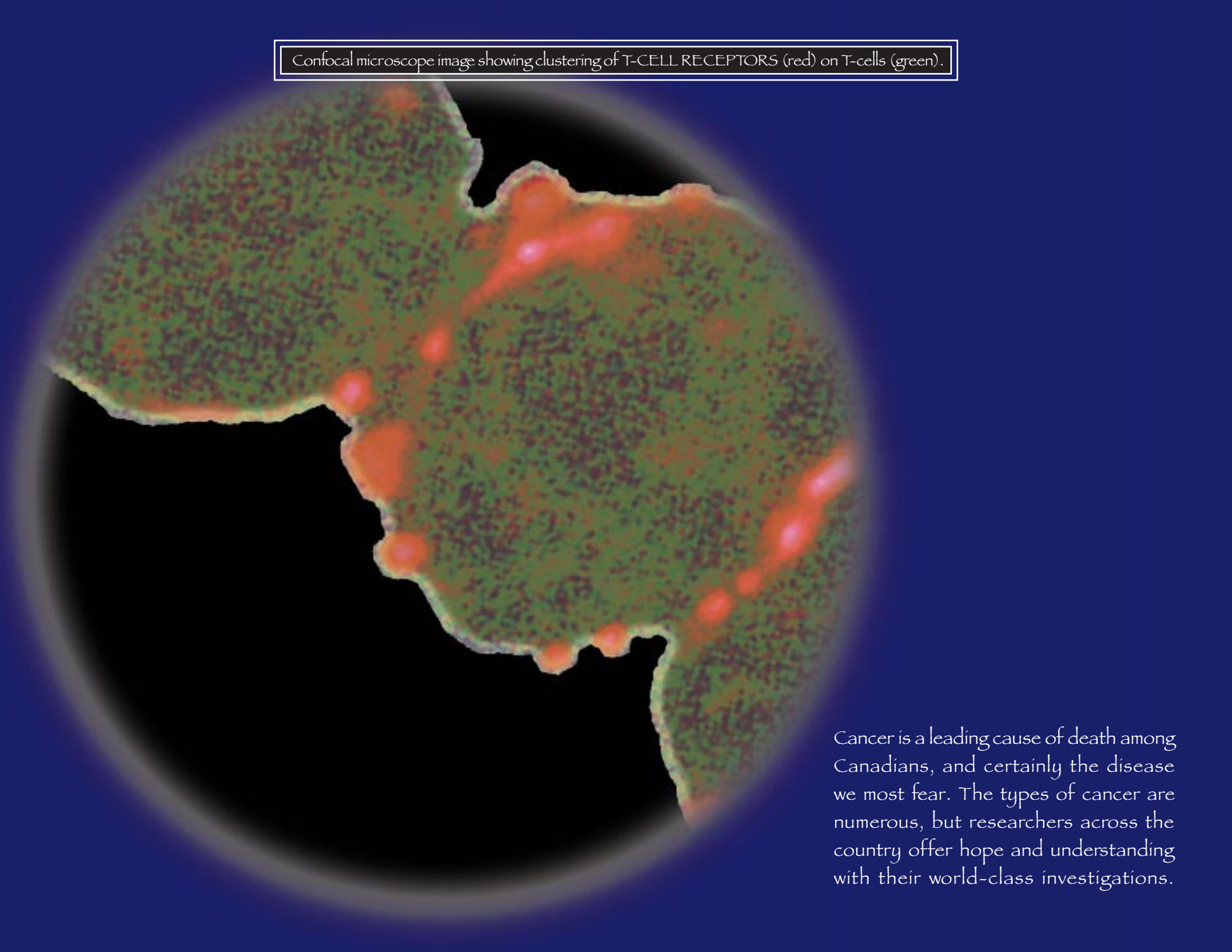
(1869-1940) DR. MAUDE ABBOTT earned her medical degree in 1894, making her among the first group of women doctors in Canada.

The study of the effect of disease on populations is called epidemiology, and Canada has led the way on this front with pioneers such as Dr. Maude Abbott, a pathologist who developed a classification system for congenital heart diseases.

March

<div><div><ul style="list-style-type: none">• NATIONAL NUTRITION MONTH• HELP FIGHT LIVER DISEASE MONTH• LEARNING DISABILITIES AWARENESS MONTH• NATIONAL EPILEPSY MONTH• NATIONAL KIDNEY MONTH• RED CROSS MONTH</div><div><div>Dates to remember...</div><div>Mar. 1-7 • National Pharmacy Awareness Week</div><div>Mar. 8-14 • International Women's Week</div></div></div> <div><div>"THE SCIENCE OF COMMUNICATION & EVALUATION"</div><div>Over the past century, the gathering of data has revolutionized our world. This development has given birth to much more comprehensive data collection and analyses in healthcare, leading to the new discipline called Clinical Epidemiology. This population-based field of research encompasses the investigation of the clinical impact of new treatments and therapies.</div></div>	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	<div><ul style="list-style-type: none">• Dr. John Symonds Lyon Brown championed health research and especially clinical science. His commitment was made real when, in 1964, he helped establish the Conseil de la recherche médicale du Québec.• Dr. George Brock Chisholm (1896-1971) was Toronto's first practising psychiatrist. As Director General of the World Health Organization from 1946-1953, Chisholm was indeed the "doctor of three billion people."• Tommy Douglas will forever be known as the "Father of Canadian healthcare." He was tireless in bringing to life his vision for a national system of healthcare, which is now the envy of many countries all around the world.• Dr. Jennie Trout (1841-1921). Although history describes her as the first woman to legally practise medicine in Canada in 1875, some say her friend and classmate Emily Stowe really came first! These women were true Canadian pioneers.</div>
				1	2	3	4	
				International Women's Day				
	5	6	7	8	9	10	11	
						St. Patrick's Day		
	12	13	14	15	16	17	18	
						World Tuberculosis Day		
	19	20	21	22	23	24	25	
	26	27	28	29	30	31		

Confocal microscope image showing clustering of T-CELL RECEPTORS (red) on T-cells (green).



Cancer is a leading cause of death among Canadians, and certainly the disease we most fear. The types of cancer are numerous, but researchers across the country offer hope and understanding with their world-class investigations.

April

- CANCER MONTH
- DENTAL HEALTH MONTH
- PARKINSON'S AWARENESS MONTH

Dates to remember...
April 2-4 • Daffodil Days
Apr. 18-24
• National Volunteer Week
• National Organ Donor Awareness Week
• Allergy Awareness Week



(1910-1990)
DR. ROBERT NOBLE

In 1953, while studying a herb from the periwinkle family at the University of Western Ontario, Dr. Robert Noble developed Vincalukoblastine, which was the first cure for Hodgkin's Lymphoma, and childhood leukemias, and is still in use today.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
					World Health Day	
2	3	4	5	6	7	8
9	10	11	12	13	14	15
Palm Sunday	International Hemophilia Day			Passover	Good Friday	
16	17	18	19	20	21	22
Easter Sunday						
23	24	25	26	27	28	29
30						

- Dr. Ann Chambers wants to understand how cancer cells spread (metastases) and how this can be prevented. Some of her answers have already made her a world authority on this front. She still seeks others, however.
- Dr. Anthony Fyles is a champion of “translational” research at Princess Margaret Hospital in Toronto, where developments in the lab are taken directly to patients. In this case, patients are benefitting from his investigation into the relationship between hypoxia (lack of oxygen) and tumour proliferation in cervix, breast, prostate, head, and neck cancer.
- Dr. Julia Levy gained world renown for her co-discovery of photodynamic anti-cancer treatment, which involves drugs that are activated by light. These days her Vancouver-based company is already looking at expanding to treatment of autoimmune diseases such as arthritis.
- Dr. Victor Ling’s claim to fame is the discovery of the cell membrane transport protein P-glycoprotein, which is important in understanding multi-drug resistance in many cancers. He is the only person in the world to have won the two highest honours in cancer research.
- Dr. Tak Wah Mak describes T-cells as “biodetectives,” who cruise the blood and tissue looking for viruses to destroy. They know they’ve found the right virus when their receptors (discovered by Mak in 1983) fit.



Electron micrograph of HUMAN CHROMOSOMES.

The biological blueprint for who we are is found in the nucleus of every cell, where chromosomes are partly made up of DNA, which in turn are made of chains of genes. Almost everything about us — from eye colour, to personality traits, to the sex of our offspring — starts in the nucleus. The study of genetics seeks to understand how it happens.

June

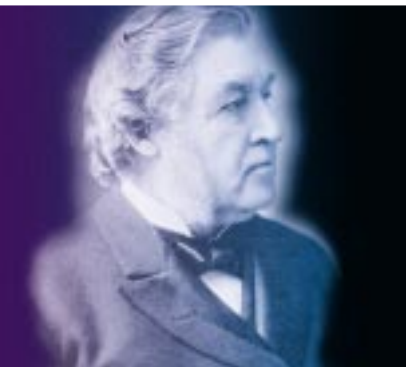
<div>• SENIORS' MONTH</div> <div>• NATIONAL SPINA BIFIDA AND HYDROCEPHALUS AWARENESS MONTH</div> <div>Dates to remember.... June 1 - Z • National Access Awareness Week</div> <div></div> <div>(1908-1995) DR. MURRAY BARR</div> <div>When Dr. Murray Barr identified the sex chromatin body, he helped launch a new era in the research and diagnosis of genetic disorders. In particular, his research led to greater understanding of mental retardation.</div>	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	<div>• Dr. Sid Altman was the winner of the Nobel Prize for Chemistry in 1989. Montreal-born Altman's very important discovery of catalytic RNA led to new understanding, including that of the origin of life.</div> <div>• Dr. William Jia is working with gene therapy — using viral vectors to carry therapeutic genes to treat diseased brain cells. He and his team at Vancouver Hospital in B.C. are world leaders in this growing new area of genetic research.</div> <div>• Dr. Michael Smith is a biochemist and molecular biologist. He won the 1993 Nobel Prize for Chemistry, and discovered site-directed mutagenesis. The methods he designed to make specific changes in DNA have been instrumental in launching the current, amazing biotechnology revolution.</div> <div>• Dr. Irene Ayako Uchida is a cytogeneticist with connections to many parts of Canada. Uchida's work as a researcher of Down syndrome and other chromosomal abnormalities is world-famous.</div>
					1	2	3	
	4	5	6	7	8	9	10	
	11	12	13	14	15	16	17	
	Father's Day						St. Jean Baptiste Day (Québec)	
	18	19	20	21	22	23	24	
	25	26	27	28	29	30		



Electron micrograph of a part of the bacterium TUBERCULOSIS (TB CELL).

Tuberculosis (TB), which used to be called the white plague, still infects about one third of the world's population. Today, it is spreading into Canada again. This now challenges scientists to study its mechanisms and to search for potential new treatments.

July



(1821-1915)
SIR CHARLES TUPPER

Sir Charles Tupper was one of Canada's first prime ministers, and the founding president of the Canadian Medical Association. He was a Maritime country doctor during a time when the Last Spike was driven, and the historic British North America Act was signed.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						Canada Day
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

- Dr. Walter Lewis and Dr. Memory Elvin-Lewis have travelled the world in search of new medicines, seeking the secrets of many traditional practitioners in the most remote tribes. Dr. Elvin-Lewis is also responsible for recording the first case of AIDS.
- Dr. Robert McMaster is a Vancouver-based researcher heading a World Health Organization vaccine trial against the parasitic disease called Leishmaniasis. It affects 20 million people worldwide and one million new cases are diagnosed each year.
- Dr. Neil Reiner. With tuberculosis (TB) on the rise again, Dr. Reiner's investigations into host defense against intracellular infections (including TB, leprosy, leishmaniasis, and a broad range of other bacterial infections) have never been more timely, more important, and more promising.

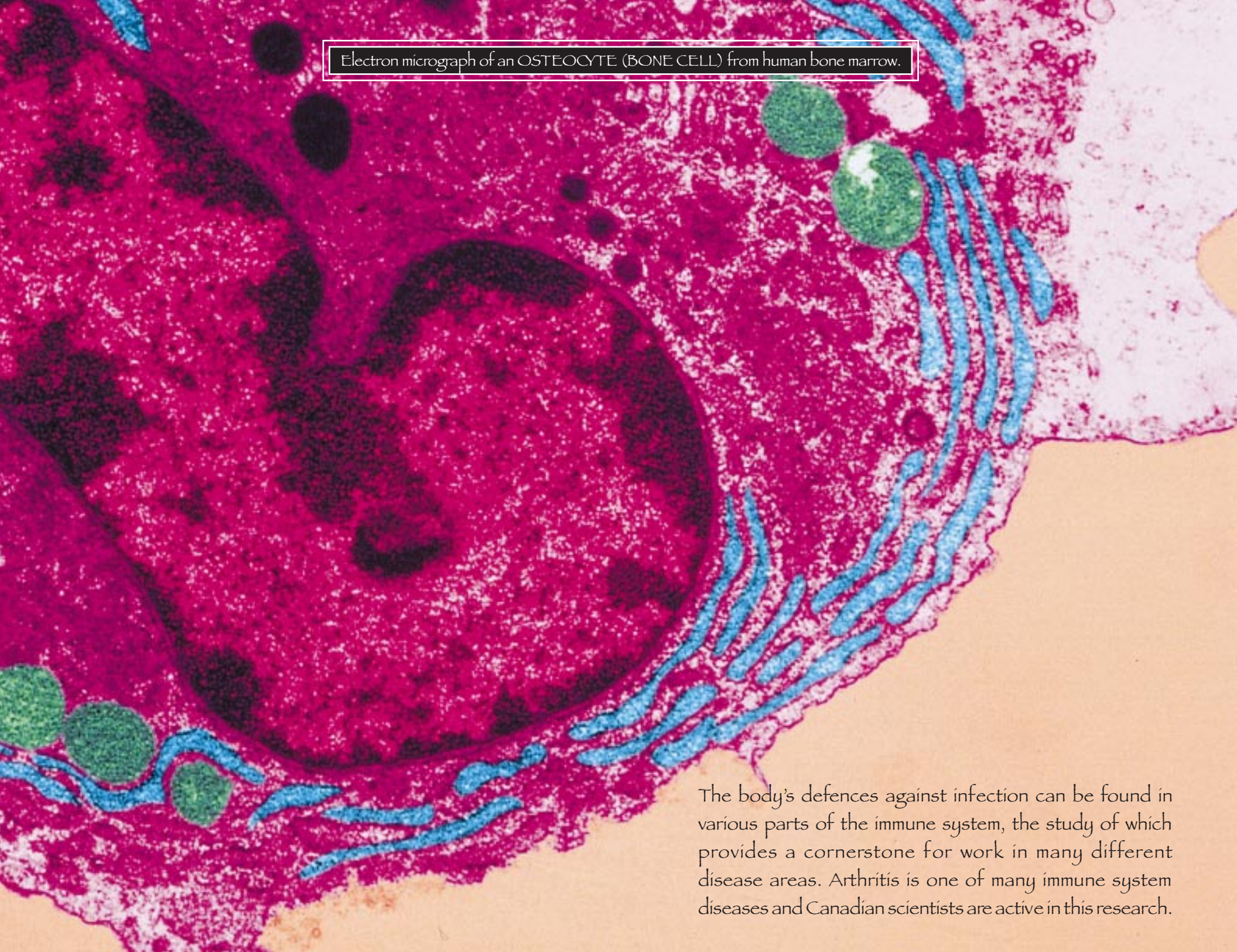
Electron micrograph of MACROPHAGE ENGULFING BACTERIA (blood cell shown in red).



There is nothing more compelling than a sick child, which is why it's important that children's health research in Canada is modeled by others around the world. From the discovery of the gene for Cystic Fibrosis, to saving the lives of thousands of babies by understanding blood group incompatibilities, our Canadian-made breakthroughs are making a difference.

August

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday		
 <p>(1893-1986) DR. BRUCE CHOWN</p> <p>Dr. Bruce Chown was among the first scientists in the world to concentrate on blood group incompatibilities, and his establishment of a lab at Children's Hospital in Winnipeg brought world renown for research which virtually eliminated infant deaths from Rh disease.</p>			1	2	3	4	5	<ul style="list-style-type: none">• Dr. Brenda Gallie is a hero to many kids who don't even know her. She developed a blood test to screen for retina tumours in children, replacing a more complex exam under anaesthesia.	
		Civic holiday (NT, BC, AB, SK, MB, ON, NB)							<ul style="list-style-type: none">• Dr. Gustave Gingras (1918-1996) is considered around the world to be an ambassador for the handicapped. Developer of a prosthesis for children that is controlled by electrical signals from muscles, Gingras also established famous rehabilitation centres for paraplegics — first in Montreal, then in Morocco, Venezuela and Vietnam.
	6	7	8	9	10	11	12		<ul style="list-style-type: none">• Dr. Charles Scriver is a major Canadian scientist in metabolic diseases. He studied the skeletal disease rickets, in children in Quebec. His research led to the enrichment of Quebec-produced milk with Vitamin D, which prevents rickets. He was involved with the inception of the worldwide Human Genome Project.
	13	14	15	16	17	18	19		<ul style="list-style-type: none">• Dr. Lap-Chee Tsui is a molecular geneticist who, with a team in 1989, found the gene that causes Cystic Fibrosis — the most common genetic disease in Canada. Scientists around the world are using the knowledge of this gene to hunt for a cure.
	20	21	22	23	24	25	26		
	27	28	29	30	31				



Electron micrograph of an OSTEOCYTE (BONE CELL) from human bone marrow.

The body’s defences against infection can be found in various parts of the immune system, the study of which provides a cornerstone for work in many different disease areas. Arthritis is one of many immune system diseases and Canadian scientists are active in this research.

September

• ARTHRITIS MONTH



(1879 –1960)
DR. MAUD MENTEN

Dr. Maud Menten was one of the first women to receive a medical degree in Canada, and her research also set new standards on a number of fronts. From a mathematical equation for analyzing scientific observations, to protein behaviour, Dr. Menten was indeed a Canadian medical pioneer.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
	Labour Day					
3	4	5	6	7	8	9
10	11	12	13	14	15	16
Terry Fox Run						
17	18	19	20	21	22	23
		AIDS Walk Canada				Rosh Hashanah
24	25	26	27	28	29	30

- Dr. Thomas Chang was just a student at McGill University in Montreal when he invented the world’s first artificial cell in 1957. Dr. Chang went on to earn not only his PhD, but also attention for his development of the first artificial blood, and new studies of artificial organs such as the liver and kidneys.
- Dr. Harold Robinson was posted in England during the First World War. While there, he learned of a treatment for rheumatoid arthritis and decided to bring it back home — first to Banff, then to Vancouver. These days, that “gold treatment” is still among the most widely used to treat this disease.

To see inside the human body is truly amazing, and the science of diagnostics alone is responsible for a very large number of medical breakthroughs over the past decades. We now have choices — from x-rays to CAT scans, to MRIs and ultrasound.



October

- BREAST CANCER AWARENESS MONTH
- AUTISM MONTH
- EYE HEALTH CANADA MONTH
- LUPUS AWARENESS MONTH
- NATIONAL FLU PREVENTION AWARENESS MONTH
- PSORIASIS AWARENESS MONTH
- SUDDEN INFANT DEATH SYNDROME AWARENESS MONTH

Dates to remember....
Oct. 16-23 • Celiac Awareness Week
Oct. 11-17 • Community Care Worker Week
Oct. 15-24 • National Science and Technology Week
Oct. 18-24 • National Dental Hygiene Week



(1915-1998)
DR. HAROLD JOHNS

Canada was the first country in the world to develop a radiation source stronger than the x-ray to treat cancer patients, and we have Dr. Harold Johns to thank for the safe delivery of “cobalt-60” in 1951, a treatment still widely used for diagnostic and therapeutic purposes.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
International Day for Older Persons						
1	2	3	4	5	6	7
	Thanksgiving Yom Kippur					
8	9	10	11	12	13	14
	World Food Day					
15	16	17	18	19	20	21
22	23	24	25	26	27	28
		Hallowe'en				
29	30	31				

- Dr. Charles Leblond, Professor of Anatomy at McGill, revolutionized biology by using radioactive tracers in animals to study exactly where and how cells and molecular processes take place. With his colleagues he greatly improved the practice of radioautography and made it useful in electron microscopy.
- Ravi Menon is a pioneer in the technique of functional Magnetic Resonance Imaging (fMRI) at the University of Western Ontario. Using this technique, researchers can now investigate where exactly in the brain particular functions are located.
- Dr. Endel Tulving is a world expert on human memory. In his work at the Rotman Institute at the University of Toronto, he uses many methods, including x-rays and Positron Emission Tomography (PET scanning) to show that information acquired without awareness can still be stored in the brain. In many memory disorders, the information is in the brain but retrieval is the problem.

SIR FREDERICK G. BANTING & CHARLES BEST discovered a hormone called INSULIN that saved the lives of those with diabetes.

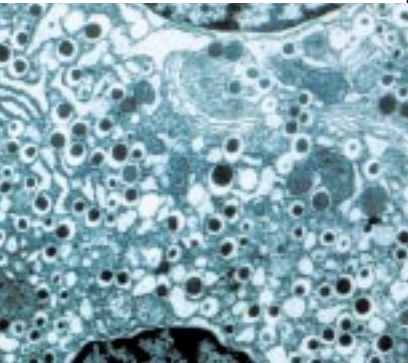
Few Canadian medical researchers stand in our minds as prominently as Sir Frederick Banting and Charles Best. Their discovery of insulin has forever changed our knowledge of diabetes. Their 1923 Nobel Prize assures a place in world history for their work, which has saved the lives of millions — especially children.

November

- DIABETES MONTH
- AMARYLLIS MONTH (HUNTINGTON SOCIETY)
- CROHN'S AND COLITIS AWARENESS MONTH
- OSTEOPOROSIS MONTH

- CARDIO-PULMONARY RESUSCITATION AWARENESS MONTH

Dates to remember...
Nov. 1 - Dec. 31 • Christmas Seal Campaign
Nov. 7-13 • National Seniors' Safety Week
Nov. 15-21
• National Addiction Awareness Week
Nov. 22-29 • National AIDS Awareness Week



PANCREAS — ISLETS OF LANGERHANS

Islets of Langerhans, cellular masses in the pancreas, are the source of insulin and glucagon.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
			Roentgen Discovery Day			Remembrance Day
5	6	7	8	9	10	11
12	13	14	15	16	17	18
	National Child Day					
19	20	21	22	23	24	25
26	27	28	29	30		

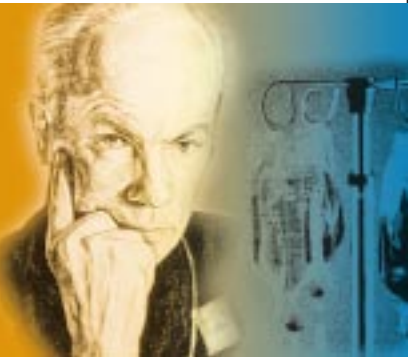
- Dr. James Collip (1892-1965). A skilful biochemist, Collip worked with Banting, Best and McLeod to produce (from dogs) the first insulin suitable for use in human beings. He was one of the original patent holders of insulin. He went on to isolate the parathyroid hormone, and also pioneered the isolation and study of ovarian and gonadotrophic (reproductive) hormones.
- Dr. Jim Wright is a pediatric pathologist working at Dalhousie Medical School. He and Dr. Bill Pohajdak, an Associate Professor in the department of biology at Dalhousie University in Halifax, have produced genetically-altered fish which contain humanized insulin genes. Eventually it may be possible to transplant genetically-altered fish islet cells into diabetic patients, thereby reducing the complications from diabetes.
- Dr. J.W. Yoon's work at the University of Calgary has made an enormous impact on diabetes research. His important studies involve the links between viruses and the development of Type 1 Diabetes.



SPINAL X-RAY showing vertebrae.

Consider it the superhighway for information to your body from your brain, with nerve signals traveling more than 400 km/hour. The spinal cord conducts most of the important messages, such as how to put one foot in front of the other. When it comes to trauma research, that’s exactly what Canadian scientists are doing, in many cases better than anyone else in the world.

December



(1890-1939)
DR. NORMAN BETHUNE

Born in a small Ontario town, Dr. Norman Bethune died a hero 49 years later in a one-room house in northern China. The Montreal surgeon lived a colourful life, forming the world’s first mobile medical unit and blood transfusion service while working overseas in Spain and China. Just a few grams of penicillin would have saved his life, but he died of complications from an infected wound he suffered while operating without surgical gloves.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					World AIDS Day	
					1	2
International Day for Disabled Persons						
3	4	5	6	7	8	9
10	11	12	13	14	15	16
					Hanukkah	
17	18	19	20	21	22	23
Christmas Eve	Christmas Day	Boxing Day			International Day for Biological Diversity	
24	25	26	27	28	29	30
New Year's Eve						
31						

- **Albert J. Aguayo.** Argentinian-born Dr. Aguayo, and his associates at McGill University, shook the world of neuroscience research when they proved in 1980 what was thought impossible — the regrowth of damaged brain and spinal cord nerve cells in adult animals. He discovered that nerve cells do not die immediately when damaged, but may survive for months, and he has put his breakthroughs to work on healing optic nerves.
- **Dr. Tom Oxlund.** When vertebrae are damaged as a result of trauma, they can press on the spinal cord and surrounding nerves, causing paralysis. But surgeons can now alleviate that paralysis by replacing a damaged vertebra with a titanium “cage” filled with bone cells. Originally developed by Dr. George Bagby, Dr. Oxlund and others around the world have refined the design to its current success.
- **Dr. John Steeves.** Until relatively recently, victims of spinal cord injury were not expected to live. Researchers such as Dr. Steeves are part of the movement to change all that, with new experimental therapies to improve functional recovery. Just around the corner from his lab at the University of British Columbia, wheelchair athlete and Man In Motion Rick Hansen believes some day he may walk again as a result of this and other work being done.

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1. How would you rate the content and stories in this calendar?

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