

Heart Health



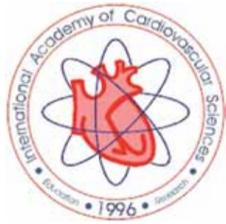
Cardiovascular diseases are the world's No. 1 killer. They claim 18 million lives every year.



Coronary, cerebrovascular, peripheral artery, rheumatic and congenital heart diseases, along with hypertension, heart failure and embolic disorders are so prevalent that combined they represent a world-wide pandemic. Cardiovascular Diseases (CVD), including heart disease, stroke and vascular abnormalities, cause more than 35 deaths every minute world-wide. It has been projected that by 2030, 23.6 million people will die annually from cardiovascular diseases. In the U.S., more women have died from CVD than men every year since 1984, a trend that has become global. Even children face congenital heart disorders; acquire problems from diseases such as rheumatic fever, hypertrophic cardiomyopathy and chagas disease; and develop risk factors, particularly obesity, which manifest throughout their lives.

While devastating in Canada and developed countries, people in impoverished nations are even more vulnerable. More than 80 per cent of cardiovascular deaths in the world occur in these countries where little patient care, prevention, education, or training is available. The largest increases in the incidence of cardiovascular diseases in the coming decade are projected to occur in the eastern Mediterranean region, while the largest increase in deaths will occur in Southeast Asia.

The devastation of CVD cannot be measured by deaths alone. The staggering costs in the U.S., including health care expenditures and lost productivity from deaths and disability, were projected by the American Heart Association to be more than \$500 billion in 2010, and cost the European Union nations nearly \$260 billion. Heart disease and stroke costs the Canadian economy more than \$20.9 billion every year.



Heart stem cell pioneer to get IACS Medal of Merit

BY PETER CARLYLE-GORDGE - For the Free Press

The Winnipeg-based International Academy of Cardiovascular Sciences will be honouring one of the world's leading heart health pioneers Sept. 14 when it presents Dr. Piero Anversa with its Medal of Merit for his career of outstanding achievements in cardiovascular education and research.

Anversa is director of the Centre for Regenerative Medicine at Brigham and Women's Hospital at the Harvard Medical School in Boston. His cutting-edge research on how internal and external adult stem cells can be harnessed to regenerate damaged heart muscle has been widely published in such journals as the New England Journal of Medicine, Nature and The Lancet, and his work may well be considered in the future by the Nobel Prize committee.

It was once believed that the heart could not grow new cells or tissue once damaged but that idea has been turned upside down with the discovery that the heart has its own supply of stem cells which can be used to regenerate damaged tissues and cells.

Theoretically, damaged hearts can be totally repaired and it may be possible in future to use adult stem cells to prevent them from deteriorating in the first place.

In an article in the Winnipeg Free Press, published when nearly 2,000 heart experts from 72 countries visited Winnipeg for the World Heart Congress in July 2001, Anversa predicted that damaged hearts can heal themselves by replacing dead cells with brand new ones. He stirred controversy then by stating: "Let's say you can trick a cell into moving where you'd like it to move and trick the cells into increasing in numbers and differentiate them into what you'd like them to be — heart muscles."

He will be giving the third annual lecture on the subject of strategies to live past the age of 100 when he speaks Sept. 14 at the Winnipeg Convention Centre. This will be an address given at the Harold Buchwald Heart Health Luncheon. Tickets are \$55 and can be obtained from the academy of cardiovascular sciences by calling 204-228-3193 or at www.heartacademy.org

Anversa told the Free Press he

has visited Winnipeg several times before and has long been a friend of Dr. Naranjan S. Dhalla, a Winnipeg-based and world-renowned cardiovascular scientist.

"I am delighted and honoured to be receiving the Medal of Merit and it is always very satisfying and pleasing when your work is recognized by your peers," he says.

Anversa knows many of the world's leading heart specialists, including Winnipeg's Dhalla, whose work in the area of ischemic heart disease has established the role of oxyradicals and intracellular calcium overload in the genesis of ischemia-reperfusion injury.



'In the past 25 years we have been able to greatly improve survival rates after heart attacks'

— DR. PIERO ANVERSA

Dhalla has published 670 full-length research papers during his professional career and is committed to translating laboratory observations into newer treatments for patient care.

Anversa is also widely published around the world and says he hopes his current work will eventually lead to lowering the incidence of heart attacks and cardiovascular diseases, which are the world's No. 1 killer.

They account for the loss of 18 million lives each year and the World Health Organization says by 2030 heart diseases will kill 23.6 million people annually. Coronary, cerebrovascular, peripheral artery, rheumatic and congenital heart diseases — along with hypertension and heart failure — now represent almost a worldwide pandemic. The problem is growing in developing nations.

It has been estimated that in the U.S. alone the cost of cardiovascular illness in health care costs and lost productivity was about \$500 billion in 2010. In Europe the cost was around \$260 billion plus \$115 billion for care and losses in productivity.

"Our work has shown that regeneration in the heart is possible after an attack," says Anversa. "We have been injecting 20 patients with the stem cells that can help do that and have been following them for two years, so I will be reporting on the latest results, which are promising."

He says it should also be possible to identify patients who are at risk of heart attacks, then do a biopsy and prepare remedial stem cell injections before an attack occurs.

"Right now we are trying to get funding for Phase 2 trials of this treatment and that would involve about 100 patients and a double blind approach," he says. "We likely

may even perhaps reverse ventricular dilation and wall thinning, thus restoring the physiological and anatomical characteristics of the normal heart.

Anversa received his MD at the University of Parma and has been given numerous awards for his research, including the Research Achievement Award of the American Heart Association (2004), and the Louis and Arthur Lucian Award (2008).

In 2003, he was given the honour of being the Distinguished Scientist of the American Heart Association. He has been published in myriad scientific and health journals and magazines. Besides his research on heart stem cells, he has also been much involved with the discovery that the lungs also have their own source of stem cells, a finding that holds out much hope for the future in lung diseases.

IACS, the international body of heart specialists, was founded by Dhalla and past president Sir Magdi Yacoub, who is regarded as the world's pre-eminent cardiovascular surgeon. The current president is the outstanding cardiologist, Dr. James Willerson, who is the director of the Texas Heart Institute in Houston.

It has members across North America and Europe as well as in Japan, India and China. It has also recently established a Global Network to Fight Cardiovascular Diseases, with the aim of educating and training people around the world in translational research, treatment and prevention of cardiovascular disease.

A fundamental aim of the network is to stem the rise in cardiovascular diseases by transferring knowledge and treatments to emerging nations. More than 80 per cent of heart disease deaths occur in impoverished nations where patient care, education, prevention programs and treatments are lacking.

Southeast Asia is likely to see a large rise in deaths in the future, and the disease is expected to rise dramatically in the eastern Mediterranean area. Researchers estimate the developing economies of Brazil, India, China, South Africa and Mexico are currently losing 21 million years of future productive life to cardiovascular diseases.

BUCHWALD HELPED MAKE VISION A REALITY

Winnipeg's Harold Buchwald, who died in 2008, was a lawyer, an extraordinary community leader and a dynamic supporter of health-related causes. Among his wide-ranging community services was the Winnipeg Health Sciences Centre Research Foundation, including leadership of its major building project.

One of Buchwald's most satisfying personal experiences was the honouring of his close friend Myles Robinson who was well established as one of Winnipeg's major developers and home builder but died suddenly of a heart attack — this in spite of having worked hard on his own heart health, including vigorous running, long before it was a popular activity.

Buchwald and a small group of friends talked of Robinson's great community service and business success for which had received no recognition. They assembled a team and ultimately accumulated \$500,000 from

his family, friends and business associates, for the Myles Robinson Memorial HEART Trust. The trustees met often and decided to fund a "Scholar" reflecting that Robinson was keen to develop young people. They were fortunate to support three young University of Manitoba professors who have grown significantly in their careers to improve heart health.

In 2008, the trustees agreed with a proposal by Dr. Naranjan Dhalla that the annual proceeds from the investment of the Trust be directed to support for five years, promotion of prevention and early detection of Cardiovascular Diseases in Manitoba by the International Academy of Cardiovascular Sciences. Dhalla is the founder and executive director of the Winnipeg-based Academy which has seven sections around the world pursuing the vision of: "The challenge for the Academy and its members is to adopt a mindset, which continuously raises the

question of how new and existing knowledge can be translated into prevention, improved diagnosis and therapy of cardiovascular disease. This approach offers the hope of a continued reduction in morbidity and mortality due to cardiovascular disease."

To focus emphasis on the prevention initiatives, Dhalla designated Ivan Berkowitz as the International Academy of Cardiovascular Sciences (IACS) "Heart Health Scholar."

The Academy created the first opportunity to recognize Harold in Winnipeg with a "Harold Buchwald Memorial Lecture" by Dr. Eldon Smith as the keynote speaker in 2008. His talk reflected Buchwald's fascination with cardiac sciences, his imaginative vision and all-consuming efforts to promote good causes.

The following year another luncheon was organized in which Dr. Jay Cohn, one of the world's pre-eminent cardiologists from the University of Minnesota,

expressed the opinion that Manitoba needed its own Centre for Cardiovascular Disease Prevention. Berkowitz has been the catalyst to involve a number of interested people to review the concept and help make the vision become a reality.

Dr. Sharon Mulvagh, from the Mayo Clinic in Rochester, Minn., spoke at another luncheon in Winnipeg last year. She is a clinical cardiologist active at the international, national, local and institutional levels in noninvasive cardiovascular imaging. She also has a special interest in heart disease in women. Since visiting Winnipeg, she has begun collaborative research projects with St. Boniface investigators and joined the steering committee for the IACS Global Network to Fight CVD. Her reporting on the unique, significant factors affecting women's heart health has encouraged work being done by the St. Boniface Hospital Foundation.

International Academy of Cardiovascular Sciences
Harold Buchwald
Heart Health Luncheon
 Sept. 14, 2012
 Winnipeg Convention Centre
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