

CV network

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Dr. James Willerson, President of the International Academy of Cardiovascular Sciences, is pleased to announce the election of two individuals for the award of Medal of Merit for the year 2011. This highest honour of the Academy is being bestowed upon Drs. Jay Cohn of Minneapolis, USA and Salim Yusuf of Hamilton, Canada for their outstanding achievements in cardiovascular education and research. Previous winners of this prestigious medal were Drs. Michael DeBakey, Richard Bing, Robert Furchgott, Edwin Krebs, Eugene Braunwald, Robert Lefkowitz, Sir John Vane, James Willerson, Sir John Radda, Victor Dzau, Robert Jennings, Sir Magdi Yacoub, Louis Ignarro, Jutta Schaper, Wilbert Keon, Wolfgang Schaper, Nirmal Ganguly, Salvador Moncada, Howard Morgan, Ernesto Carafoli, Eric Olson, Laszlo Szekeres and Arnold Katz.

2011 MEDAL OF MERIT AWARDS



Dr. Jay N. Cohn

Jay N. Cohn, M.D., is a Professor of Medicine in the Cardiovascular Division, Department of Medicine at the University of Minnesota Medical School, Minneapolis, Minnesota. He received his M.D. from Cornell University Medical School in 1956 and completed his internship and residency at Beth Israel Hospital in Boston. He served as a fellow in cardiovascular research and as a clinical investigator at the Veterans Affairs (VA) Hospital and Georgetown University from 1960 to 1965. He was Chief of Hypertension and Clinical Hemodynamics at the VA Hospital from 1965 to 1974 and Professor of Medicine at Georgetown University. Dr. Cohn was Head of the Cardiovascular Division at the University of Minnesota from 1974 to 1996. He is currently Director of the Rasmussen Center for Cardiovascular Disease Prevention.

Dr. Cohn is internationally recognized for his contributions to our understanding of cardiovascular disease and for his leadership in designing and carrying out clinical trials to document efficacy of new interventions for heart failure. He was the first to advocate vasodilator therapy for heart failure, including nitroprusside, nitrates with hydralazine and converting enzyme inhibitors. He organized and chaired the first long-term trials in heart failure, the Veterans Affairs Cooperative Study Program on vasodilator therapy of heart failure (V-HeFT). He was among the first to identify neurohormonal activation as a key contributor to the progression of heart failure and to set the stage for neurohormonal inhibiting therapy. In recent years ▶

he has focused on efforts at early identification of cardiovascular disease in order to initiate therapy before organ system disease develops. His innovative efforts at early detection have included screening to diagnose stiffening of the small arteries, utilizing a methodology he developed at the University of Minnesota which is now FDA-approved and marketed worldwide. He is the founder of the Heart Failure Society of America and served as the first president of this society. He also founded and served as Editor-in-Chief of the first journal dedicated to heart failure, the *Journal of Cardiac Failure*. He is the author of more than 700 scientific publications and has written extensively on circulatory physiology, hypertension, congestive heart failure and its treatment, nervous system control mechanisms in heart failure, and vascular compliance. He holds a number of patents, including those related to pulsewave analysis for the measurement of arterial elasticity and use of hydralazine and isosorbide dinitrate for the treatment of heart failure. He serves on the editorial boards of many of the major journals in the field. He is co-editor with Dr. James Willerson of the cardiology text, *Cardiovascular Medicine*, and editor of the textbook, *Drug Treatment of Heart Failure*.

Dr. Cohn is a Master of the American College of Physicians, a fellow of the American Heart Association, American College of Cardiology, IACS and the American Association for the Advancement of Science and is a member of the Association of American Physicians and the American Society for Clinical Investigation as well as many other professional societies. He is a past President of the Heart Failure Society of America, the International Society of Hypertension, and the American Society of Hypertension and has served as an officer of the American Heart Association and the American Federation for Clinical Research. He is Past-President of the International Society of Cardiovascular Pharmacotherapy. He served as chairman of the Cardiorenal Advisory Committee of the Food and Drug Administration and has served on a number of government boards and committees.

Dr. Cohn has been the recipient of a number of awards including the Arthur S. Flemming Award, the James B. Herrick Award of the American Heart Association (AHA), the Distinguished Service Award (AHA), Distinguished Scientist Award (AHA), the AHA Scientific Councils' Distinguished Achievement Award, the Lifetime Achievement Award of the Heart Failure Society of America, the William S. Harvey Award, the Sir Thomas Lauder Brunton Award and the Arrigo Recordati International Prize for Scientific Research: Lifetime Achievement in Heart Failure, the Henry Ford Heart & Vascular Institute's Lifetime Research Achievement Award, Cornell Weill Medical College Alumni Association Award of Distinction, I A C S Lifetime Achievement Award. He is a member of the Academic Health Center's Academy for Excellence in Health Research at the University of Minnesota and received the Clinical Scholar Award for 2006 of the University of Minnesota Medical Center. He has presented numerous honorary lectures around the world and has served as visiting professor at many universities here and abroad.



Dr. Salim Yusuf

Salim Yusuf, MBBS, DPhil., is a Professor of Medicine, McMaster University; Director, Population Health Research Institute, McMaster University and Hamilton Health Sciences, and Vice-President of Research, Hamilton Health Sciences. Salim Yusuf is a cardiologist and epidemiologist. After qualifying in medicine from St. John's Medical College, Bangalore, India in 1976, he received a Rhodes Scholarship and obtained a DPhil. from Oxford, during which he was involved (along with Richard Peto and Peter Sleight) in initiating the concept of large, simple trials, and meta-analysis. He subsequently coordinated the first ISIS trial, and served on the steering committee of all subsequent ISIS trials. In 1984, following clinical training in medicine and cardiology in the UK, he moved to the National Institutes of Health, Bethesda, USA. There he applied these principles of large, simple trials to other areas that led to the SOLVD and DIG trials in heart failure.

In 1992 he moved to McMaster University, and since then has established an international program of research in cardiovascular diseases and prevention. These studies have established the roles of ACE-inhibitors, dual antiplatelet therapies, novel antithrombotics and appropriate place of invasive interventions. His epidemiologic work involving the INTERHEART and INTERSTROKE studies in over 60 countries have identified that the majority of risks of both conditions are attributable to a few common risk factors. His ongoing study (PURE) involves communities in 19 countries and examines the impact of societal changes on a range of non-communicable diseases in about 400,000 people. He has also been a visiting professor at St. John's Medical College in India for over the last twenty years, where he has collaborated in facilitating several projects and establishing a major research institute which coordinates a national network for clinical research.

He holds a Heart and Stroke Foundation of Ontario Research Chair, was a Senior Scientist of the Canadian Institutes of Health Research, and has received the Lifetime Research Achievement award of the Canadian Cardiovascular Society, the 2001 Prix Galien Canada Research Award, the Lucian Award for Cardiovascular Research 2002, the Paul Wood Silver Medal of the British Cardiac Society 2003, elected as IACS Fellow, the European Society of Cardiology gold medal in 2008, and the American Heart Association Clinical Research Award in 2008, in addition to over 30 other international and national awards for research. He was inducted into the Royal Society of Canada in 2005. He has published over 600 articles, and is among the top 10 cited clinician-scientists in the world, with several articles deemed to be citation classics. His interests include population health in developing countries, evaluation of affordable and widely practical therapies, as well as broader influences on health, including the influence of environmental factors such as urbanization, economic development, social and cultural factors. His research collaboration involves 85 countries in all the inhabited continents of the world. He has trained numerous researchers who have made their independent impact.

The Academy's New Initiative Against CVD

by Ivan Berkowitz, Winnipeg, Canada

The Global Network to Fight Cardiovascular Diseases is being formed under the auspices of the International Academy of Cardiovascular Science to educate and train medical personnel around the world in research, treatment and prevention of cardiovascular disease. The goal of the network is to stem the rising rate of CVD by transferring knowledge primarily to emerging nations. The IACS has developed a Global Network Steering Committee composed initially of President Dr. James Willerson; Founder and CEO, Dr. Naranjan S. Dhalla; and Past-President Sir Magdi Yacoub; and Ivan Berkowitz, Heart Health Scholar. The following internationally-active heart health experts have accepted invitations to serve:

Dr. James Willerson, IACS President
President and Medical Director: Texas Heart Institute
Professor: The University of Texas Health Science Center
Houston, Texas, U S A

Sir Magdi Yacoub, IACS Past-President
Professor, Imperial College London
National Heart & Lung Institute at H.S.C.
Harefield, U K

Dr. Bohuslav Ostadal, IACS President-Elect
Professor and Past Director, Institute of Physiology,
Academy of Sciences of the Czech Republic
Prague, Czech Republic

Dr. Naranjan Dhalla, IACS Executive Director
Distinguished Professor, University of Manitoba
St. Boniface Hospital Research
Winnipeg, Manitoba, Canada

Dr. Nirmal Ganguly
Distinguished Biotechnology Research Professor
Department of Biotechnology
National Institute of Immunology
New Delhi, India

Dr. Otoni Gomes
Professor, Surgical Cardiovascular Clinic
Minas Gerais Federal University Medical School
Belo Horizonte, Brazil

Dr. Jay N. Cohn
Professor of Medicine
Director, Rasmussen Center for Cardiovascular Disease Prevention
University of Minnesota Medical School
Minneapolis, Minnesota, USA

Dr. Junbo Ge
Professor of Medicine/Cardiology: Director, Department of
Cardiology
Zhongshan Hospital, Fudan University
Chairman, Shanghai Institute of Cardiovascular Diseases
Shanghai, China

Dr. Ernest Madu
Chairman and CEO, Heart Institute of the Caribbean
Kingston, Jamaica

Dr. Sharon Mulvagh
Director of Women's Heart Clinic, Mayo Clinic
Rochester, Minnesota, USA

Dr. Edward Kaplan
Professor, Dept. of Pediatrics,
University of Minnesota Medical School
Minneapolis, Minnesota, USA

Dr. Jawahar Mehta
Director, Medicine and Physiology and Biophysics
Director, Molecular Cardiology
University of Arkansas for Medical Sciences
Little Rock, Arkansas, USA

Dr. Mohamed Boutjdir
Professor, Depts. of Medicine, NYU School of Medicine and
SUNY Downstate Medical Center
Associate Chief of Staff for R&D, VA New York Harbor Healthcare
New York, New York, USA

Dr. Giuseppe Ambrosio
Director of Cardiology
University of Perugia School of Medicine
Perugia, Italy

Dr. Naoki Makino
Professor and Head
Division of Molecular and Clinical Gerontology
Medical Institute of Bioregulation, Kyushu University
Beppu, Japan

Dr. Angel Zarain-Herzberg
Profesor Titular C de TC
Dept. Bioquímica Fac. de Medicina, UNAM
Apdo, México

Dr. Dragan Djuric
Professor and Chair
President of the Assembly, Serbian Physiological Society
Institute of Medical Physiology
University of Belgrade School of Medicine
Belgrade, Serbia

Dr. Suzanne Oparil
Professor of Medicine, Physiology and Biophysics
Division of Cardiovascular Disease
Department of Medicine
University Of Alabama Birmingham
Birmingham, Alabama, USA

Suzu Lanier
Medical Editor and Executive Assistant to Dr. Willerson
The University of Texas Health Science Center
Houston, Texas, USA

Ivan Berkowitz
IACS Heart Health Scholar
Winnipeg, Manitoba, Canada

The IACS Global Network has built significant relationships and intends to expand such collaboration. Dr. Shanthi Mendis, Senior Advisor and Coordinator of Cardiovascular Diseases Prevention and Management of World Health Organization in Geneva has written in CV Network; spoken on "Future of Heart Health" (now online on our web site <http://sbrc.tv/1/watch/41.aspx>); and recently offered full support for the Global Network. Subsequent to meeting with Dr. Abdallah Daar, Chief Science and Ethics Officer of Grand Challenges Canada, we followed his suggestion and have met with IACS Fellow Dr. Arun Chockalingam, Director, Office of Global Health, National Heart, Blood and Lung Institute of N I H. Dr. Willerson, Mr. Berkowitz and Dr. Chockalingam had a meeting on Sept. 21, following the UN Summit on Prevention and Control of Non-Communicable Diseases on Sept. 18-20. Dr. Chockalingam offered to establish an alliance between our Global Network and the United Health Group and NHLBI Collaborating Centers of Excellence of 10 Centers (see map above) including India, Peru, Guatemala, China, South Africa, Kenya, China, Argentina and Bangladesh. We discussed the potential for us to provide the cardiovascular training to supplement their broader interest in all chronic diseases. But Dr. Chockalingam stressed that CVD and pulmonary diseases are their priority. As we were to conclude, Dr. Chockalingam invited us to attend the Annual Meeting on Oct. 23-25 in Bethesda, Maryland, U S A when N I H hosted representatives from the Centers and other interested people. We were able to meet and establish communication with the leaders of the Centers and their sponsors – United Health, Medtronic and the N I H. Dr. Chockalingam accepted Dr. Willerson's invitation and with Dr. Cristina Rabadan-Diehl, Project Director and Deputy Director Office of Global Health of NHLBI will attend our meeting of the IACS Global Initiative Steering Committee during the A H A Scientific Sessions in Orlando on Nov. 14.



We have met on numerous occasions and continue to explore areas of mutual support with HeartBeat International. Their exceptional publication One Heart Magazine can be read at <http://www.oneheartmagazine.com>. Heartbeat International is proud of its extensive network of volunteer doctors, nurses, hospitals, administration and generous medical manufacturers, that comprise each of their Heart Centers in 14 countries (highlighted on their map)



For more than 25 years, HBI has been saving the lives of patients who do not have the economic resources to afford the pacemaker and ICD operations needed to survive. Relying on their network and with unique support from local chapters of Rotary International, they have saved more than 11,000 lives! For more details about the Global Network, please go to: <http://www.heartacademy.org/phpwcm/index.php?global-network>

Winnipeg Heart International Conference

by Dr. Pawan K. Singal, Chair, WHIC 2011, Professor and Director, ICS and Naranjan S. Dhalla Chair



Dr. Michel Tétreault, President and CEO, St. Boniface Hospital (left) presenting a plaque to Dr. Pawan Singal, Professor and Director, Institute of Cardiovascular Sciences, St. Boniface Research Centre in recognition of the Silver Jubilee of the Institute.

members of the public were invited to attend. A total of 94 symposia talks by the international experts in their field of specialty were given in 14 symposia sessions. Lunch workshops on "Challenges of Commercialization and Translational Research" and "Asper-Mayo-St. Boniface Collaboration" were well received. Participation by trainees was particularly promoted in many ways by providing: travel grants; complimentary/subsidized registration; and oral as



Dr. Pawan Singal, Director, Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre (left) presenting the John Foerster Award to Dr. Suzanne Oparil (Birmingham, USA)

were published: one was dedicated to the publishing of the abstracts and the other two issues, one each in the celebration of the 75th birthday of Dr. Naranjan Dhalla and 65th birthday of Dr. Pawan Singal. At the opening ceremony, on behalf of the Institute, Dr. Pawan Singal, received a plaque from Dr. Michel Tétreault, President and CEO, St. Boniface Hospital, commemorating 25 years of heart research and education at the St. Boniface Campus.

Five symposia in the conference were named after Drs. Naranjan Dhalla, Pawan Singal, Vincenzo Panagia, Grant Pierce and Elissavet Kardami to celebrate the Silver Jubilee of the setting up of their laboratories at the St. Boniface Campus. A souvenir was released at the opening ceremonies which included the complete Scientific Program, late breaking abstracts and brief biographical sketches of most of the participants. Selected presentations from the confer-

This wonderful conference, quite dense in science and generous in social events, was organized as well as hosted by the Institute of Cardiovascular Sciences (ICS) at the Winnipeg Convention Centre. The conference was also a celebration of the 25th anniversary of the start of ICS activities at the St. Boniface Hospital Campus. In addition, we also held the 13th ICS Awards Program inclusive of award lectures, dinner and awards ceremony. Thus this international conference was not only a collection of many activities but it was also a unique mix of former trainees as well as associates of the ICS, mentors where our faculty trained, and other notable heart researchers from 22 different countries.

We had five outstanding plenary speakers inclusive of Dr. Barry Halliwell (Singapore); Dr. Peter Liu (Toronto, Canada); Dr. Salvador Moncada (London, England); Dr. Susan Oparil (Birmingham, USA); and Dr. Jean-Lucien Rouleau (Montreal, Canada). Two of these talks (Drs. Oparil and Liu) were held as public forums where



Mr. Charles LeFleche, President and CEO, St. Boniface Hospital Foundation (left) presenting the Robert Beamish Award to Dr. Salvador Moncada (London, England)

as well as poster award competitions. Winner of the oral competition in the postdoctoral category was Dr. Joseph Gordon and in the graduate student category, Ms. Rushita Bagchi. In the poster award category the winners were: Ms. Melanie Ngo; Ms. Chantal Menard; Ms. Wajihah Mughal; and Mr. Dedmer Schaafsma.

A total of 166 abstracts were submitted by 300 participants. Three special issues of the international journal, "Experimental and Clinical Cardiology"



Dr. Barry Halliwell (Singapore) accepting the Ken Bowman Award from Mr. Bidhu Jha, Honourable Member of the Manitoba Legislature (right).

ence will be published as a part of the proceedings in the "Canadian Journal of Physiology and Pharmacology". Following winners of different ICS Awards were honored at the Gala Banquet Dinner held on October 15, 2011:

Prof. Salvador Moncada (London, England) – Robert Beamish Leadership Award

Prof. Barry Halliwell (Singapore) – Ken Bowman Research Achievement Award

Prof. Suzanne Oparil (Birmingham, USA) – John Foerster Distinguished Lecturer Award

Prof. Jan Slezak (Bratislava, Slovakia) – Vincenzo Panagia Distinguished Lecturer Award

Prof. Patrick Choy (Winnipeg, Canada) – Jack Litvack Exemplary Service Award

Dr. Joseph Gordon (Winnipeg, Canada) – Arnold Naimark Young Investigator Award

Mr. Ryan Cunnington (Winnipeg, Canada) – Henry Friesen Young Scientist Award

Dr. Rimpdy Dhingra (Winnipeg, Canada) – Sr. Jacqueline St-Yves Publication Award

Ms. Riya Ganguly (Winnipeg, Canada) – Heart and Stroke Foundation Award

Mr. Thane Maddaford (Winnipeg, Canada) – Kalwant Dhalla Research Technician Award

Ms. Sophie Davie (Winnipeg, Canada) – T. Edward Cuddy Research Award

Mr. Brian Bestvater (Winnipeg, Canada) – James S. McGoey Research Award



Dr. Marcello Panagia (Boston, USA) and Mrs. Marisa Panagia (Italy) with Dr. Jan Slezak (Bratislava, Slovakia), recipient of the Vincenzo Panagia Award (right).



Dr. Grant Pierce, Executive Director of Research, St. Boniface Hospital (left) making a presentation to Dr. Naranjan Dhalla on the occasion of his 75th Birthday.

Such a large international conference was made possible by the generous financial support from: St. Boniface Hospital Foundation/Sir Thomas Cropp Foundation; St. Boniface Hospital Research Centre; Department of Innovation, Energy and Mines, Government of Manitoba; Heart and Stroke Foundations; Mayo Clinic – Asper Endowment Fund; University of Manitoba: Vice President Research and International, Faculty of Medicine, Faculty of Kinesiology and Recreation Management, Department of Physiology, Centre for Research and Treatment of Atherosclerosis; Royal Bank of Canada; Cardiac Sciences Program; Manitoba Health Research Council, CancerCare Manitoba; and Pfizer Canada. A large team of volunteers lead by Drs. Michael Czubyrt (Organizing Secretary) and Jeff Wigle (Scientific Coordinator) worked tirelessly for the success of this conference. On behalf of the Organizing Committee of the WHIC 2011, we express our sincere thanks to these and all other supporters.



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Editor's note: Attracted by a most interesting report by Dr. Sanjay Gupta on CNN, I have done some research and believe it is important to share the findings by outstanding professionals. But I still think my Trout Lake Diet is the easiest and remarkably effective!

If President Clinton can do it, we all can avoid heart attacks!

From CNN online



By the time he reached the White House, Bill Clinton's appetite was legend. He loved hamburgers, steaks, chicken enchiladas, barbecue and french fries but wasn't too picky. At one campaign stop in New Hampshire, he reportedly bought a dozen doughnuts and was working his way through the box until an aide stopped him.

Former President Clinton now considers himself a vegan. He's dropped more than 20 pounds, and he says he's healthier than ever. His dramatic dietary transformation took almost two decades and came about only after a pair of heart procedures and some advice from a trusted doctor.

His dietary saga began in 1993, when first lady Hillary Clinton decided to inaugurate a new, healthier diet for her husband. In a meeting, she asked Dr. Dean Ornish to work with the White House chefs, who were accustomed to high fat, French cuisine. "The president did like unhealthy foods, and we were able to put soy burgers in White House, for example, and get foods that were delicious and nutritious," said Ornish, director and president of the Preventive Medicine Research Institute in Sausalito, California. Other new menu items included such healthy fare as stir fry vegetables with tofu, and salmon with vegetables. Even with the revamped White House menu, Clinton battled his weight throughout his two terms as president. At his annual physical in 1999, the White

House physician noted the president had put on 18 pounds since a checkup two years earlier. The prescription: refocus on exercise and a low-calorie diet.

Clinton didn't know it, but weight was not his biggest health concern. The 42nd president has a family history of heart disease, and plaque was building up in the coronary arteries leading to his heart, undetected by White House doctors.

In 2004, less than four years after leaving office, the 58-year-old Clinton felt what he described as a tightness in his chest as he returned home from New Orleans, where he was promoting his memoir, "My Life." Days later, he underwent quadruple bypass surgery to restore blood flow to his heart. "I was lucky I did not die of a heart attack," Clinton told CNN's Dr. Sanjay Gupta. After the surgery, the former president cut down on his calories and lowered the cholesterol in his diet, but his heart troubles were not over.

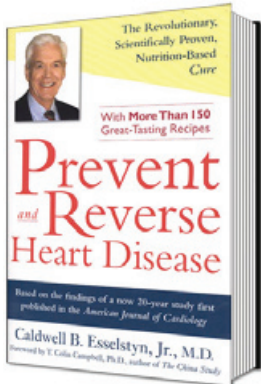
Last year, the former president went to Haiti to support the relief efforts but he felt weak. When he returned home, he learned he needed another heart procedure: two stents to open one of the veins from his bypass surgery, which had become, in Clinton's words, "pretty bent and ugly." Ornish recalls meeting with Clinton a few days after his angioplasty. "I shared with him that because of his genetics, moderate changes in diet and lifestyle weren't enough to keep his disease from progressing. However, our research showed that more intensive changes change actually reverse progression of heart disease in most people." "I told him, 'The friends that mean the most to me are the ones that tell me what I need to hear, not necessarily what I want to hear. And you need to know your genes are not your fate. And I say this not to blame you but to empower you. And I'm happy to work with you to whatever extent you want,'" Ornish recalled. They met a few days later, he said.

Clinton then decided to make profound changes in the way he eats. "I essentially concluded that I had played Russian roulette," Clinton said, "because even though I had changed my diet some and cut down on the caloric total of my ingestion and cut back on much of the cholesterol in the food I was eating, I still -- without any scientific basis to support what I did -- was taking in a lot of extra cholesterol without knowing if my body would produce enough of the enzyme to support it, and clearly it didn't or I wouldn't have had that blockage. So that's when I made a decision to really change." The former president now says he consumes no meat, no dairy, no eggs, almost no oil.

"I like the vegetables, the fruits, the beans, the stuff I eat now," Clinton told Gupta. The former president's goal is to avoid any food that could damage his blood vessels. His dietary guides are Ornish and Dr. Caldwell Esselstyn Jr., who directs the cardiovascular prevention and reversal program at The Cleveland Clinic Wellness Institute. Both doctors have concluded that a plant-based diet can prevent and, in some cases, actually reverse heart disease.

"All my blood tests are good, and my vital signs are good, and I feel good, and I also have, believe it or not, more energy," Clinton said. His latest goal: getting his weight down to 185, what he weighed when he was 13 years old.

Clinton is trying to spread his newfound zeal for healthy eating to children. The Clinton Foundation has teamed up with the American Heart Association and is helping 12,000 schools promote exercise and offer better lunches so decades from now, today's children will not face the same heart troubles he has. "It's turning a ship around before it hits the iceberg, but I think we're beginning to turn it around," Clinton said. ▶



Prevent and Reverse Heart Disease

Online at www.amazon.com

A groundbreaking program backed by the irrefutable results from the 20-year study by Caldwell B. Esselstyn, Jr., M.D. proving changes in diet and nutrition can actually cure heart disease. Heart disease remains the leading cause of death in the United States for men and women. But, as Dr. Esselstyn, an internationally known former surgeon, researcher and clinician at the Cleveland Clinic, explains in this book it can be prevented, reversed, and even abolished. Dr. Esselstyn argues that conventional cardiology has failed patients by developing treatments that focus only on the symptoms of heart disease, not the cause. Based on the groundbreaking results of his 20-year nutritional study – the longest study of its kind ever conducted – this book explains, with irrefutable scientific evidence, how we can end the heart disease epidemic in this country forever by changing what we eat. Here, Dr. Esselstyn convincingly argues that a

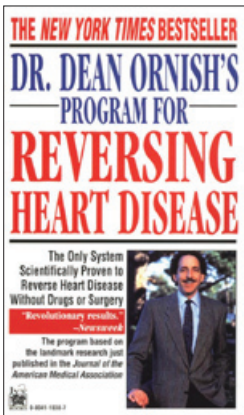
plant-based, oil-free diet can not only prevent and stop the progression of heart disease, but also reverse its effects.

The proof is in the results. The patients in Dr. Esselstyn's initial study came to him with advanced coronary artery disease. Despite the aggressive treatment they received, among them bypasses and angioplasties, 5 of the original group were told by their cardiologists they had less than a year to live. Within months on Dr. Esselstyn's program, their cholesterol levels, angina symptoms, and blood flow improved dramatically. Twelve years later 17 compliant patients had no further cardiac events. Adherent patients survived beyond twenty years free of symptoms.

Drop in cholesterol levels: After 5 years on Dr. Esselstyn's plant-based diet, the average total cholesterol levels of his research group dropped from 246 milligrams per deciliter to 137 mg/dL (Above 240 mg/dL is considered "high risk," below 150 mg/dL is the total cholesterol level seen in cultures where heart disease is essentially nonexistent.) This is the most profound drop in cholesterol ever documented in the medical literature in a study of this type.

Cardiac events: The 17 patients in the study had 49 cardiac events in the years leading up to the study, and had undergone aggressive treatment procedures. Several had multiple bypass operations. After beginning the eating plan, there were no more cardiac events in the group within a 12-year period.

Angiogram evidence: Angiograms taken of the participants in the study show a widening of the coronary arteries, and thus a reversal of the disease.



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When you make healthy choices, you feel better quickly. When you feel better, you enjoy making healthy choices.

People often think that advances in medicine have to be a new drug, a new laser, or a surgical intervention to be powerful – something really high-tech and expensive. They often have a hard time believing that the simple choices that we make in our lives each day – what we eat, how we respond to stress, whether or not we smoke, how much we exercise and the quality of our relationships – can make such a powerful difference in our health, our well-being, and our survival, but they often do.

Awareness is the first step in healing. When we become more aware of how powerfully our choices in diet and lifestyle affect us – for better and for worse – then we can make different ones. It's like connecting the dots between what we do and how we feel.

Part of the value of science is to raise our awareness by helping us to understand the powerful effects of the diet and lifestyle choices we make each day – and how changing these may significantly, sometimes dramatically, improve our health and well being. In many cases, these improvements may occur much more quickly than people had once believed possible.

In our studies, we used the latest in high-tech, expensive, state-of-the-art measures to prove how robust these very simple, low-tech, and low-cost interventions can be.

For more than 30 years, Dr. Dean Ornish has directed a series of scientific research studies showing, for the first time, that the progression of even severe coronary heart disease can often be reversed by making comprehensive lifestyle changes. These include a very low-fat diet including predominantly fruits, vegetables, whole grains, legumes, and soy products in their natural, unrefined forms; moderate exercise such as walking; various stress management techniques including yoga-based stretching, breathing, meditation, and imagery; and enhanced love and social support, which may include support groups.

The Ornish Diet

by Chelsy Leslie, RD, from the July 2003 "Healthful Resources" newsletter

Q: Dr. Dean Ornish has published several books about his very low-fat diet. Are there any problems with that diet?

A: Dr. Dean Ornish promotes a diet that limits fat to 10% of total calories, which is approximately 15-25 grams of fat per day. To achieve this low level of fat, many foods must be avoided. These include meat, fish, oils and fats, avocados, olives, nuts, cheese, whole or low-fat milk, egg yolks, and any other product that has more than 2 grams of fat per serving. Non-fat dairy products are allowed in moderation. The diet primarily includes legumes, vegetables, fruit, and whole grains.

The goal of the Ornish diet is to prevent or treat heart disease. According to Dr. Ornish, severe heart disease can often be reversed by following his plan. In addition to a low-fat, whole-foods diet, Dr. Ornish also promotes moderate exercise, stress management techniques, and social support. All of these lifestyle changes can protect against heart disease, high blood pressure, and other diseases. In addition, the diet tends to be lower in calories compared to how most people usually eat, so weight loss may occur.

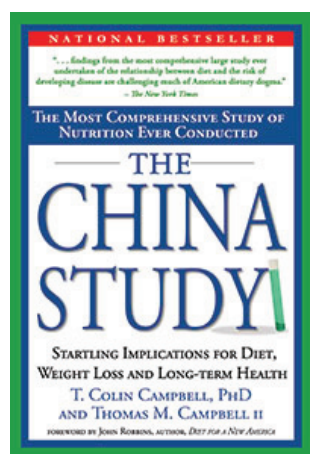
The diet has many beneficial aspects, but there are also several disadvantages. Fat has many important roles in our diets. Although 10% of calories from fat may be adequate to prevent essential fatty acid deficiency and aid in the absorption of fat-soluble vitamins, a very-low-fat diet is difficult for most people to follow. Fat provides a pleasant taste to food. It also gives us a feeling of satiety, meaning it helps us feel satisfied, curbs our appetite, and guards against overeating. People who follow a very-low-fat diet often feel hungry and unsatisfied.

The Ornish diet can be low in other nutrients including protein, vitamin B12, and iron. Proper meal planning is essential and vitamin supplementation may be necessary to prevent deficiencies. Dr. Ornish advises taking a multivitamin with vitamin B12 and either fish oil or flaxseed oil capsules for a source of omega-3 fatty acids. Although supplements may be helpful, it is best to rely on foods for nutrients whenever possible.

It is also important to keep in mind that not all fats are created equal. Research has shown that saturated fat may be one of the primary contributors to heart disease. Sources of saturated fat include animal products such as butter, beef, cheese, and also snack foods. However, monounsaturated fat (found in olive and canola oils, nuts, olives, and avocados) may actually have a protective effect.

Keep in mind that although some fats may be healthier than others, they all still are high in calories. Using olive oil instead of butter may keep your heart happy, but it probably won't help with weight loss.

Although the Ornish diet may be a bit extreme for the average person, many of the concepts can be incorporated into a diet of moderation to help prevent disease and promote health.



The science is clear. The results are unmistakable

[online at Amazon.com](#)

For more than 40 years, Dr. T. Colin Campbell has been at the forefront of nutrition research. His legacy, the China Project, is the most comprehensive study of health and nutrition ever conducted. Dr. Campbell is the Jacob Gould Schurman Professor Emeritus of Nutritional Biochemistry at Cornell University. He has more than 70 grant-years of peer-reviewed research funding and authored more than 300 research papers and coauthor of the bestselling the book, *The China Study: Startling Implications for Diet, Weight Loss and Long-term Health*.

The science is clear. The results are unmistakable.

Change your diet and dramatically reduce the risk of cancer, diabetes, heart disease and obesity.

Respected nutrition and health researcher, Dr. T. Colin Campbell reveals the truth behind special interest groups, government entities and scientists that have taken Americans down a deadly path

Even today, as the low-carb craze sweeps the nation, two-thirds of adults are still obese and children are being diagnosed with Type II diabetes, typically an "adult" disease, at an alarming rate. If we're eating healthier, why are Americans stricken with heart disease as much as we were 30 years ago? Drawing on the project findings in rural China, but going far beyond those findings, *The China Study* details the connection between nutrition and heart disease, diabetes and cancer. The report also examines the source of nutritional confusion produced by powerful lobbies, government entities, and opportunistic scientists. The New York Times has recognized the study (China-Oxford-Cornell Diet and Health Project) as the "Grand Prix of epidemiology" and the "most comprehensive large study ever undertaken of the relationship between diet and the risk of developing disease." "After a long career in research and policy-making, I have decided to step 'out of the system'. I have decided to disclose why Americans are so confused," said Dr. Campbell. "As a taxpayer who foots the bill for research and health policy in America, you deserve to know that many of the common notions you have been told about food, health and disease are wrong. I propose to do nothing less than redefine what we think of as good nutrition. You need to know the truth about food, and why eating the right way can save your life."

Early in his career as a researcher with MIT and Virginia Tech, Dr. Campbell worked to promote better health by eating more meat, milk and eggs -- "high-quality animal protein ... It was an obvious sequel to my own life on the farm and I was happy to believe that the American diet was the best in the world." He later was a researcher on a project in the Philippines working with malnourished children. The project became an investigation for Dr. Campbell, as to why so many Filipino children were being diagnosed with liver cancer, predominately an adult disease. The primary goal of the project was to ensure that the children were getting as much protein as possible. "In this project, however, I uncovered a dark secret. Children who ate the highest protein diets were the ones most likely to get liver cancer..." He began to review other reports from around the world that reflected the findings of his research in the Philippines.

Although it was "heretical to say that protein wasn't healthy," he started an in-depth study into the role of nutrition, especially protein, in the cause of cancer. The research project culminated in a 20-year partnership of Cornell University, Oxford University, and the Chinese Academy of Preventive Medicine, a survey of diseases and lifestyle factors in rural China and Taiwan. More commonly known as the China Study, "this project eventually produced more than 8000 statistically significant associations between various

dietary factors and disease.” The findings? “People who ate the most animal-based foods got the most chronic disease ... People who ate the most plant-based foods were the healthiest and tended to avoid chronic disease. These results could not be ignored,” said Dr. Campbell.

In The China Study, Dr. Campbell details the connection between nutrition and heart disease, diabetes, and cancer, and also its ability to reduce or reverse the risk or effects of these deadly illnesses. The China Study also examines the source of nutritional confusion produced by powerful lobbies, government entities, and irresponsible scientists. The China Study is not a diet book. Consumers are bombarded with conflicting messages regarding health and nutrition; the market is flooded with popular titles like The Atkins Diet and The South Beach Diet. The China Study cuts through the haze of misinformation and delivers an insightful message to anyone living with cancer, diabetes, heart disease, obesity, and those concerned with the effects of aging. Additionally, he challenges the validity of these low-carb fad diets and issues a startling warning to their followers.

Instead of going to Florida to find the South Beach Diet, try coming to the most beautiful place in the world, near the Lake of the Woods, Ontario – even storms can be awesome and try



Ivan's “TROUT LAKE” Diet*

One page is all you get = a simple approach for people on the go.

My friend/doctor Jack Rusen has introduced me to an addition: 2 glasses of ice water before every meal.

Forbidden products (direct or as ingredients): salt, sugar, butter, white flour, red meat, cream, white potatoes, white flour pasta, skin, deep-fried food, white rice, soft / high fat cheese, saturated fats, liquor (except the odd glass of red wine), soft drinks other than diet, desserts with sugar and / or milk products and / or white flour

Encouraged products: fruits, salads, vegetables (especially dark coloured ones), pulse vegetables (garbanzo, chickpeas, lentils), oat-

meal, soy products, tofu, fish, white meat of chicken / turkey, salmon, prunes, bran products, vinegars, olive oil, flax (oil or crushed), brown/wild rice, buckwheat, walnuts, almonds, skim milk, pepper, herbs, garlic, mushrooms, whole wheat flour products, green tea, chamomile tea (instead of coffee especially for an upset tummy).

Approaches to meals:

Breakfast – soy/skim milk, oatmeal, shredded wheat/bran, egg beaters, fruit

Lunch – salad, fruit

Dinner – veggies / salad, meat or fish (not huge portions), fruit

Exercise is strongly recommended. At least, walk 30 minutes every day. Weight workouts are good. Not necessary to train for and complete 22 full (26.2 miles) Marathons as I have done, but it helps!

and, NEVER, NEVER eat even a mouthful after 8:00 PM

**Based on personal experience over 50 years, losing probably a TON of weight but still fighting to lose the fat that creeps back, probably due to metabolism that attracts fat ... and an innate LOVE of food!*

With our most sincere congratulations and best wishes for all success, we share the following announcement from Dr. Ramesh K. Goval:



“I am pleased to inform you that after successful completion of the tenure as the Vice Chancellor at the M.S. University of Baroda, Vadodara and 33 years of services in L. M. College of Pharmacy, Ahmedabad, I have taken up the new assignment as the Director of the I.S. F. College of Pharmacy, Moga, Punjab.

The college was started by the Indo-Soviet Friendship Trust in 1984 and it has earned the name and fame to be one of the leading Research & Training Pharmacy Institutions in India specially in Punjab under the dynamic leadership of Late Prof. Manjeet Singh who joined this institute in 2005.

To develop and maintain high standards of education is a sort of challenge. But I have considered it an opportunity because I have association with great personalities. I look forward to continued support from all of my friends in the Academy, and collaborations in terms of educational programs and Research.”

Nitric Oxide Boosting Fitness

by Nobel Laureate in Medicine and Academy Fellow Dr. Louis Ignarro and Naturopathic Physician Dr. Andrew Myers



Many people are beginning to understand that eating nutrients found in certain foods or taking supplements can be an effective way to boost Nitric Oxide levels in the body. But did you know that the easiest and most inexpensive way to boost NO production is through exercise? Exercise accelerates blood flow, stimulating the production of Nitric Oxide. In fact, boosting NO levels is known to increase the body's anaerobic threshold, meaning you can work out for longer periods of time. Working out, in turn, boosts NO levels.

Nitric Oxide Benefits:

- Exercising regularly can help to lower blood pressure. By exercising, the endothelial cells lining the blood vessels throughout the body produce sufficient NO to help prevent hypertension.
- Exercise can help to improve cholesterol levels by raising blood levels of the "good" HDL cholesterol. Research shows that regular exercise can boost HDL levels by a full 5 to 15%.
- Exercise-enhanced NO production can help to discourage blood platelets from sticking to the inner lining of blood vessels, reducing the risk of plaque accumulation and blood clots. This can reduce the chances of developing atherosclerosis.

Regular Exercise

- Can strengthen the heart and make it work more efficiently. This enables the heart to deliver more blood with each beat and lower the resting heart rate.
- Is critical to weight loss and preventing or reversing obesity.
- Lowers the risk of breast, prostate, and colon cancer.
- Reduces the risk of adult-onset diabetes.
- Reduces the chances of developing osteoporosis.
- Leads to a decline in stress and anxiety.
- Improves sleep quality.
- Heightens energy levels.
- Strengthens the immune system.

How Much Exercise?

It doesn't take hours a day to receive the health benefits of exercise. The key to success is regularity and frequency. Twenty minutes, three times a week is the critical amount of exercise that every person needs to receive the benefits of NO production caused by exercise. Regular exercise can actually train the endothelial cells to produce additional Nitric Oxide even when the body is at rest. Exercise does not have to be particularly strenuous to be very effective. Walking, jogging, and biking are some of the easiest and most effective ways to regularly exercise.



As we complete the 10th year of publication of CV Network, The Executive of the IACS expresses deep gratitude to all who have served this noble endeavour. We specifically thank those who have worked diligently on the Editorial Board. We recognize that we need to add some new ideas so have created a new Editorial Board as follows.

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Welcome to Delhi, India

by Subir Kumar Maulik, New Delhi, India



From above below:

1. The Bahá'í House of Worship, Lotus Temple,
2. India Gate; a monument in the memory of Indian soldiers killed in 1st World War
3. Humayun Tomb (1562 AD), the final resting place of Mughal Emperor Humayun (UNESCO)
4. A musical fountain in New Delhi
5. Akashardham Temple (an architectural marvel)
6. Taj Mahal

All India Institute of Medical Sciences, New Delhi, India is honoured to host the prestigious International Conference "Cardiovascular Research Convergence" on 17th and 18th February, 2012 under the aegis of International Academy of Cardiovascular Sciences (IACS), being jointly organised by the departments of Cardiology and Pharmacology. The event is also actively supported by the UK India Education and Research Initiative (UKIERI) in the fond memory of the famous cardiologist Dr. Philip Poole-Wilson.

All India Institute of Medical Sciences is recognized as a premier medical school in India, with an excellent tertiary health care facility. It has a strong tradition of interdisciplinary research in almost all areas of medical sciences. The departments of Cardiology and Pharmacology enjoy a four decade old tradition of collaborative research. Both these departments have active participations in government sponsored initiatives in scientific research on stem cell therapy to clinical trials of standardized Ayurvedic medicines. This has culminated in a large number original research publications and nurtured many basic and clinical scientists who are replicating the tradition in India and abroad.

In the true spirit of this bond, the conference will provide a great opportunity for the Indian cardiologists and cardiovascular scientists to interact with their International counterparts. It is indeed a great honour for us to have the privilege of setting the platform with the active support of the IACS and UKIERI. During these two days, there will be plenary sessions addressed by renowned scientists from many countries. We have planned about 20 symposia on various subspecialties like cardiovascular epidemiology, preventive cardiology, cardiovascular therapeutics, heart failure, hypertension, cardiac arrhythmias, genomics and ethical research of herbal medicines. Each symposium will have speakers from both basic and clinical divisions. Mid-career scientists will have special opportunities for podium presentation. Interactive abstract presentations will be an important event where young scientists will be able to showcase their work.

We hope this conference will open up scope for future collaborations between basic and clinical cardiovascular scientists both in India and abroad. More importantly we are looking forward to special opportunities for younger scientists to acquire expertise in various research methodologies in international laboratories and clinics which can be applied in need based medical research in India. In addition, there will be two prize sessions for young scientists.

All work and no play should not make us "dull". Evenings will be more socially and culturally attractive. Delhi is the capital city of India. It is a city that bridges two different worlds. Old Delhi was the capital of Mughal India. In contrast, the imperial city of New Delhi created by the British is composed of spacious, tree-lined avenues and imposing government buildings. Delhi has been the seat of power for several rulers for about a millennium. Many a times the city was built, demolished and then rebuilt here. In Delhi, one will discover the city studded with dazzling gems: captivating ancient monuments, fascinating museums and art galleries, architectural wonders, a vivacious performing-arts scene, fabulous eating places and bustling markets. The city has many UNESCO World Heritage Sites.

Delhi has been the political hub of India. This was true even of the mythological era. The Pandavas of the Mahabharata had their capital at Indraprastha, which is believed to have been geographically located in today's Delhi. There will also be a wonderful opportunity to visit the historical places in and around Delhi, including the world famous Taj Mahal.

Looking forward to welcome you in New Delhi!

Reports from E S C Annual Congress in Paris

The annual European Society of Cardiology Congress was held in Paris, France Aug 27-31, 2011. Over four thousand research abstracts were presented including submissions from over 140 countries. Local delegates from St. Boniface General Hospital Cardiac Sciences Program were also in attendance. The article below written by Dr. Davinder Jassal and his Masters student Mr. Matthew Zeglinski, summarizes a few of the major clinical studies presented at the ESC 2011. For more information of the congress please visit: www.escardio.org/congresses/esc-2011

Atrial Fibrillation: ARISTOTLE study

Warfarin is highly effective in the prevention of stroke in individuals with atrial fibrillation (AF). However, its use is hindered due to its significant side effects including food and drug interaction, a narrow therapeutic range, need for anticoagulant monitoring, and risk of major bleeding. Apixaban is a novel oral Xa inhibitor with a 12-hour half-life, which requires no anticoagulant monitoring.

ARISTOTLE was a double blind, multicenter, randomized control study in which 18,201 patients from 1034 sites in 39 countries were randomized to receive either 5.0mg Apixaban orally twice a day or Warfarin, targeting an INR range of 2-3. The primary objective was to determine whether or not Apixaban was non-inferior to Warfarin at reducing stroke or systemic embolism in those with AF and at least one additional risk factor. The inclusion criteria included individuals with AF who had at least one additional risk factor for stroke including age ≥ 75 , previous stroke, transient ischemic attack (TIA), heart failure (HF) or a left ventricular ejection fraction (LVEF) $\leq 40\%$, diabetes, and/or hypertension. Baseline characteristics were similar between the Apixaban (n=9,120) and Warfarin (n=9,081) treated groups.

The ARISTOTLE study demonstrated that compared to Warfarin, Apixaban prevented 6 strokes (4 hemorrhagic, 2 ischemic/uncertain), 15 major bleeds, and 8 deaths per 1000 patients followed for 1.8 years. Apixaban therapy effectively reduces stroke and SE by 21%, major bleeding by 31% and all cause mortality by 11% in those patients with AF and at least one additional risk factor for stroke. Therefore, this study demonstrated that in individuals with AF, Apixaban is superior to Warfarin in preventing stroke or SE, major bleeding and all cause mortality.

Pericarditis: CORP study

Recurrent pericarditis is reported to be as high as 30% in individuals who have previously recovered from primary pericarditis. Colchicine is an effective drug for the treatment and prevention of pericarditis. The COPE and CORE trials were single center, open labeled, randomized control studies that demonstrated that colchicine had a RRR of 66% and 53% compared to Aspirin in treatment and prevention of pericarditis.

The CORP study was designed to evaluate the efficacy and safety profile of colchicine in the secondary prevention (recurrence prevention) of pericarditis. It was a randomized, double blind, placebo controlled multicenter study conducted in four centers in northern Italy. A total of 120 patients with a confirmed diagnosis of recurrent pericarditis, age ≥ 18 , and informed consent were included in the study. Patients were randomized to receive either conventional treatment (aspirin 800-1000mg, orally every 8 hours for 7-10 days or prednisone 0.2-0.5mg/kg/day for 4 weeks) plus placebo 1.0mg twice daily for 24 hours then 0.5mg twice daily for 6 months (n=60) or conventional treatment plus colchicine 1.0mg twice daily for 24 hours then 0.5mg twice daily for 6 months (n=60). The primary endpoint was recurrence of pericarditis at 18 months, while secondary endpoint was persistent symptoms at 72 hours, remission at 1 month, disease related hospitalization, cardiac tamponade, and constructive pericarditis.

Individuals treated with colchicine demonstrated a recurrence rate of 24% at 18 months follow-up compared to 55% in the placebo group. Secondary endpoints including re-admission, cardiac tamponade, and constriction were similar and non-significant between the placebo and colchicine treated groups. One-week remission was significantly higher in the colchicine group, whereas 72-hour persistent symptoms were significantly lower in the Colchicine group compared to placebo. Overall, the number of recurrences was significantly lower in the colchicine group and the time to first recurrence was significantly longer in the colchicine group compared to placebo.

The CORP findings were similar to those of the CORE trial that demonstrated a RRR of 53% in the colchicine treated group in the treatment and prevention of pericarditis. While these findings are impressive, there are several limitations that must be noted. First, colchicine is not registered for the prevention of pericarditis and its use for the treatment of pericarditis is off label. Second, there was a limited sample size and those with bacterial and neoplastic etiologies were excluded from the study. Furthermore, individuals with elevation in transaminase levels, severe liver disease, elevated creatinine, myopathy, blood dyscrasias, or gastrointestinal disease were excluded. Despite these limiting factors, the CORP study found that following an initial episode of recurrent pericarditis, colchicine appears to be a safe, inexpensive way to relieve symptoms, improve remission, and reduce recurrences when used in combination with anti-inflammatories.

Stents: EXAMINATION trial and PRODIGY study

The EXAMINATION trial evaluated the use of a Xience-V stent in the setting of ST elevation myocardial infarction (STEMI). Acute coronary syndrome (ACS) commonly appears as an independent predictor of stent thrombosis. Drug-eluting stents (DES) have been evaluated in multiple randomized control trials in the setting of STEMI, generally with good results. However, as new DESs come

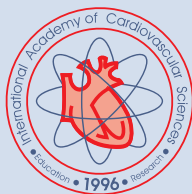
onto the market there is no new data evaluating their safety and efficacy. The objective of the EXAMINATION study was to evaluate the safety and performance of the new XIENCE-V Everolimus DES system against the standard cobalt chromium MULTI-LINK VISION balloon expandable stent in a setting of primary percutaneous coronary intervention for patients presenting with STEMI's. This was a multicenter, multi-country randomized trial. Fifteen hundred patients were randomized to receive either the new second-generation Xience-V Everolimus-eluting stent (n=751) or the standard first-generation cobalt-chromium stent (n=747) and were followed for 12 months. The primary endpoint was all cause death, any myocardial infarct (MI), or revascularization. Secondary endpoints included all cause and cardiac mortality, recurrent MI and need for further revascularization/ procedures, stent thrombosis, and major/minor bleeding at 1 year and yearly up to 5 years.

At one year follow-up there was no difference in the primary end point between the Xience-V and Vision stents for all cause mortality, any MI and revascularization. The Xience-V stent was, however, able to significantly reduce the rates of definite thrombosis, definite/probable thrombosis, and revascularization. These findings concluded that the Xience-V stent is safe and efficacious in those patients that present with STEMI's.

The PRODIGY team evaluated the prolonged use of dual antiplatelet treatment (DAPT) after grading stent-induced intimal hyperplasia. Previous studies have suggested that patients who are high risk for thrombotic events may benefit from prolonged DAPT beyond 1 year, whereas other studies have suggested that DAPT for 6 months may be sufficient because late stent thrombosis did not correlate with discontinuation of DAPT. With the use of prolonged DAPT in the balance, the PRODIGY team wanted to determine whether or not 24 months of aspirin and clopidogrel is superior to a 6 month course of the combination therapy.

PRODIGY was a multi-centered, randomized controlled trial in Italy. Inclusion criteria included any indication to perform an angioplasty and an intent to stent. 2,013 patients were recruited and randomized to receive either short (6 month) or long (24 months) term DAPT after receiving a first (Taxus) or second (Xience-V or Endeavor) -generation stent or a BMS. The primary end point was a composite of death from any cause, MI or CVA.

All cause death MI or CVA was similar between the short term and long term DAPT groups. No significant difference was observed in cumulative ischemic events between either group, however, there was a significant increase in type II, III, or V bleeding (as described by the Bleeding Academic Research Consortium (BARC)) in those undergoing 24 month DAPT. The 24 month DAPT group required significantly more RBC transfusions than those on the 6-month DAPT. This was a negative study that demonstrated prolonging DAPT to 24 months is not superior to 6-month therapy in patient that received a first or second generation drug eluting stent or at least 1 month following bare metal stent.



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“Think Different!”

By Rizwan A. Manji and Alan H. Menkis, Winnipeg, Canada

Major advancements have often been made by changing the way we think about problems that confront us. We have come to know this as “thinking outside the box”. From discovering that the earth was in fact not flat and not the center of the universe to being able to hold an entire computer in the palm of your hand (smartphones) has required imagination and diligence. There usually are significant roadblocks when one thinks differently from the crowd but this is important to move society forward.

A recent area of innovation where researchers are beginning to think different relates to the mechanism of failure of tissue or bioprothetic (pig or cow) heart valves in young patients. If a young patient (less than 50 years old) has a malfunctioning heart valve and needs to have it replaced, one usually needs to replace the patient’s valve with a mechanical heart valve as a bioprothetic heart valve will fail due to calcium build-up (calcification) and wear and tear within a very short period of time (6 months to 5 years) necessitating repeat operation which has a two to five fold higher risk of death than the first operation. The problem with having a mechanical heart valve (which theoretically should last forever) is that one needs to be on a blood thinner which needs to be tightly controlled as if the blood gets too thin, one can bleed and if the blood is not thin enough, the valve can clot. The consequences of either occurring can be devastating and there is a cumulative 1-2%/year risk of one of these happening; thus if a 30 year old gets a mechanical valve, they have a 45-90% chance that they will have a bleeding or clotting problem by the time they reach 75 years old.

It has commonly been accepted (as dogma) that bioprothetic heart valves fail in young people (as opposed to older people over the age of 70) because young people have more calcium turnover and are more active thus leading to more wear and tear of the valve. The bioprothetic heart valves have been treated with an agent called glutaraldehyde to help preserve them and to supposedly make them essentially “immunologically inert”. However, if one thinks different, this hypothesis must be challenged based on the evidence available. Most adults are not growing after their teenage years and thus their calcium turnover is likely to be similar to someone in their 70’s (who would have a bioprothetic heart valve last for over 20 years). As people age, higher pressures are generated in their hearts due to left ventricular hypertrophy and they also have more high blood pressure; thus, their heart valves are exposed to more wear and tear. In addition, many young patients have heart rates that are similar to or lower than elderly patients, again suggesting that wear and tear in young patients is less likely to explain the very aggressive calcification and destruction of bioprothetic heart valves in young patients.

However, one obvious difference between the elderly and the young is that young patients have a more competent immune system. In medicine, there are many circumstances where the immune system will be unsuccessful in appropriately dealing with a foreign agent, such as a bacterium, and will thus try to isolate it from the host via calcification (eg. Tuberculosis). In

addition, implanting a pig or cow valve (even if it is glutaraldehyde fixed) is a form of xenotransplantation (cross-species transplantation) and thus one would expect that there may be an immune response to the foreign tissue.

There has been research recently challenging “the dogma” and in fact, there is considerable evidence to suggest that pig tissue heart valves (that are glutaraldehyde fixed) undergo immune injury that leads to calcification. There are now genetically engineered pigs available that do not express some of the antigens thought to be important in the rejection process and studies are underway to assess whether these “less immunogenic” tissues may decrease the immune mediated injury to the bioprothetic heart valves and thus, one may be able to design a valve for young patients. This would be a novel and potentially revolutionary change in the treatment of valvular heart disease in young patients.

It is thus important to keep an open mind when confronting a challenge and not be constrained by conventional wisdom. As scientists, we must observe what happens and let the data be a guiding light to future investigations rather than a crutch to explain the past. It is important to use your imagination and as the late Steve Jobs of Apple Inc. used to preach: “Think Different!”



INTERNATIONAL ACADEMY OF CARDIOLOGY
17th WORLD CONGRESS ON
HEART DISEASE
ANNUAL SCIENTIFIC SESSIONS 2012
TORONTO, ON, CANADA, July 27-30, 2012



The Fairmont Royal York, Toronto, ON, Canada
Abstract deadline: February 29, 2012
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CHAPTER

REMEMBERING SOMEONE SPECIAL

We Mourn the Distinguished Academy Fellow Borivoj Korecky

by Alison Muller, Winnipeg



Dr. Borivoj Korecky, affectionately known by his colleagues and friends as Borek or Boris, was born on September 9, 1929 in Prague, Czechoslovakia. He graduated from the medical school at Charles University in Prague in 1955, successfully publishing three papers as a medical student and became an Assistant, and later Associate, Professor at Charles University of Prague in the Department of Pathophysiology (1955-1966). He then moved to Canada and became a Professor in the Department of Physiology at the University of Ottawa. He passed away on August 28th, 2011 at the Ottawa General Hospital as a result of complications related to chronic lymphocytic leukemia.

He made significant contributions to cardiovascular science, publishing one book, over 80 papers in peer-referred journals and was an Associate Editor for both the Canadian Journal of Physiology and Pharmacology and Circulatory Shock. His research interest focused on heart transplantation, angiogenesis (heart vessel growth) and muscle mechanics. He was invited to numerous international symposia, conferences, and congresses as a speaker and session chairman. He was also a successful supervisor, graduated 7 MSc and PhD students, 12 post-doctoral fellows and visiting scientists. Dr. Pawan Singal, Director of the Institute for Cardiovascular Sciences in Winnipeg, Canada, remembers Dr. Korecky as "a great physiologist who published a lot on heart and blood vessel growth in many pathological and physiological conditions". Dr. Naranjan S. Dhalla, the Executive Director of the International Academy of Cardiovascular Sciences was deeply saddened by the news of Dr. Korecky's passing saying that he has "many fond memories of interactions. Indeed, Borek was a fine human being who was always willing to help others. He did outstanding work in the field of cardiac hypertrophy and I held him in high regard".

Although he moved to Canada, he continued to support the medical and scientific community in his home country and when political changes occurred in the Czech Republic, he organized the donation of five hemodialysis machines to Bratislava. In addition, he helped initiate a Czech and Slovak Travel Fund under the Development Fund at the University of Ottawa which enabled several medical researchers to undertake research in Ottawa.

Finally, not only was he knowledgeable in cardiovascular sciences, he had a genuine interest in history, WWII, and politics. He enjoyed many sports throughout his life, including gymnastics and skiing. Despite a skiing accident resulting in hip complications, he visited the Landing Beaches of Normandy and Mont St. Michel on crutches, emphasizing his passion for history.

Not only will he be remembered by the cardiovascular community as an important scientific mind as well as a friend, Dr. Korecky will live in the hearts of his lovely wife Marta, his two children Martin and Judy, and five grandchildren Marla, Michael, Catherine, Alexander, and Elizabeth.

ADVANCES IN HEART HEALTH

Seal Oil Can Reduce Cholesterol

by Yan Jun Xu, Winnipeg, Canada

Cardiovascular disease (CVD) is the number one killer in the modern world. An Increase in the blood level of the bad cholesterol (LDL) is considered to be a major cause of CVD as it contributes to atherosclerosis and hardness of blood vessels. It has been estimated that lowering blood LDL to a normal range would reduce CAD by one third.

Early observations by a group of Danish doctors reported that the low incidence of CVD in Inuit people living in Greenland was related to seal meat in their diet. Experimental and clinical research has demonstrated that seal oil can reduce LDL cholesterol and triglycerides, increase good cholesterol (HDL), prevent platelet activation, a major cause of thrombosis, as well as reduce blood viscosity and inflammation. Recent studies have found that seal oil contains high amount of Omega-3 poly unsaturated fatty acids (PUFAs). Docosapentaenoic acid (DPA) is often overlooked as a component of long-chain Omega-3 PUFAs. This is primarily because most Omega-3 studies have been conducted with fish or fish oil that contain only small amounts of DPA. Fewer studies have been done using seal oil with its much higher content of DPA. DPA works with eicosapentaenoic acid (EPA) and docosahexaenoic acid to provide benefits. DPA is said to be ten times more effective than EPA in healing damaged blood vessels.

A recent review article (1) suggests that oxidative stress and inflammatory processes play important roles in the development of atherosclerosis. Oxidized LDL can easily penetrate the wall of blood vessels, attract macrophages and platelets and evoke an inflammatory response. Oxidized LDL is formed by the reaction of free radicals and LDL. Seal oil has also been shown to be an effective anti-oxidant.

Taking 5 seal oil capsules or 15 ml/day may be recommended for individuals needing to lower their blood LDL. However, it is advised to consult a physician before taking any supplement.

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A tinkerer at heart, Wilson Greatbatch epitomized what that means to medicine

By Jim Stommen [online at Medical Device Perspectives Daily, the official MDD blog for critical news, analysis, debates, commentary and camaraderie related to the medical technology field.]



Photograph: Bill Sikes/AP

A prolific inventor who died last week in upstate New York at the age of 92, Wilson Greatbatch is credited with more than 325 patents, including coming up with the first practical implantable pacemaker.

Besides being memorialized for those breakthroughs, he truly should be viewed as an inveterate tinkerer who as much as any single individual represents the very best of what that term means to medical innovation.

While the invention of the pacemaker is what caught the attention of headline writers in the nation's newspapers (The New York Times, for instance, cited him as "Pacemaker Inventor" in the headline on its page-leading obituary), Greatbatch's historic role in healthcare is even more rooted in his development of a long-life lithium battery, importantly impacting the longevity of implantable devices.

Wilson Greatbatch truly epitomized the "tinkerer" genre. The story of how he came to invent the implantable pacemaker is a case in point. In 1956 he was working on building a heart rhythm recording device for the Chronic Disease Research Institute at the University of Buffalo, where he was an assistant professor of electrical engineering.

As the New York Times story noted, one day "he reached into a box of parts for a resistor to complete the circuitry on the cardiac recorder. The one he pulled out was the wrong size, and when he installed it, the circuit it produced emitted intermittent electrical pulses."

One can almost picture the proverbial light bulb going on above his head. As was noted in a memoir published in 2000, Greatbatch immediately associated the timing and rhythm of the electrical pulses with the beating of the human heart. With his research interest piqued by the fortunate happenstance that had just occurred, he began experimenting to organize an electrical-stimulus device that could be both small enough and reliable enough for implanting in a human.

The first implantation of a test device in a dog came in 1958, and after further work 10 successful implantations were made in humans in 1960. In 1961, the product was licensed to a then-fledgling Minneapolis firm. Becoming the manufacturer of the pacemaker set Medtronic down a path to become the largest medical device-centered company in history.

Greatbatch turned his attention to addressing the critical issue of battery life in the pacemaker, which initially was powered by conventional zinc-mercury batteries with a life of just two or three years, requiring yet another surgical procedure for replacement. He acquired rights to a lithium iodine design invented by Baltimore researchers and reengineered it into a compact package that could power an implanted device for 10 years or more.

In 1970, he founded Wilson Greatbatch Ltd. The Clarence, New York-based company that carries his name also carries his pioneering work forward as the pre-eminent provider of such medical power components, and today, as Greatbatch Inc., has evolved beyond its cardiac rhythm management beginnings to producing technologies for the orthopedic, neuromodulation and vascular access markets.

A native of Buffalo, Greatbatch became interested in electronics while working as a Boy Scout in the small amateur radio station on a Sea Scouts ship. A story in The Buffalo News noted that "Even in his advanced years, Mr. Greatbatch . . . was still tinkering with new inventions and discoveries — from a cure for AIDS using genetic engineering to a nuclear-powered spaceship to send people to Mars."

His daughter, Anne Maciariello, told the Buffalo newspaper, "When I talked to him a month ago, he had all kinds of projects he wanted to work on. He never stopped."

Greatbatch was a man of faith who served as an elder at Clarence Presbyterian Church, where he also sang in the church choir and taught Sunday school. According to The Buffalo News, he often had one particular observation on the role of a higher power in determining one's place in life: "I don't think the good Lord cares whether you succeed or fail, but he wants you to try hard."

The newspaper said that general message had become one of Greatbatch's signature themes, and he often passed along the advice to the younger generation. "Never avoid doing anything because you fear it won't work," he told University of Buffalo engineering students two decades ago. "You shouldn't look only for success or peer approval. You should just do your work because it's a good thing to do."

As worthwhile words to live by, those are pretty hard to top.

PostDoctoral Joint Meeting on Cardiovascular Sciences



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by Melchior Luiz Lima and Antoinette Oliveira Blackman – Brazil

The Ninth Postdoctoral Joint Meeting on Cardiovascular Sciences was held in Ottawa, Canada on August, 11th, 2011 sponsored by Cardiovascular Division, University of Ottawa Heart Institute and Medical Devices Innovation Institute, University of Ottawa – Prof. Tofy Mussivand and São Francisco de Assis Truth is Jesus Cardiovascular Foundation – ServCor – International College of Cardiovascular Sciences – Prof. Otoni Moreira Gomes. Co-sponsored by The International Academy of Cardiovascular Sciences – Prof. Naranjan S. Dhalla.

The Conference scheduled 12 scientific contributions. Among the speakers was Prof. Robert Roberts, President Director Ottawa Heart Institute, when opened the meeting with his lecture on Cardiovascular Medicine and Glimpse of the Future, highlighting the importance of the genetic factor in cardiovascular diseases. Following Dr. Roberts was Prof. Melchior Luiz Lima who presented results of his studies showing the best myocardial protection in isolated hearts of rats with cardioplegic solutions at 20°C. Prof. Otoni Moreira Gomes described the myocardial protection by K⁺/H⁺-ATPase pump blockers with similar results of the ischemic preconditioning protective effects. Prof. José Carlos Dorsa Pontes described the importance of the myocardial fibrosis extension in the results of the heart failure treatment by the left ventricular remodeling surgery. Prof. Ricardo A. Benfatti presented improved results of the mitral valve replacement with ventricular remodeling by Gomes' Crossed Papillopepy in patients with NYHA III/IV heart failure describing also the Melchior option of the Crossed Papillopepy with Chordae Tendinae substitution by bovine pericardial graft. Prof. Kwan-Leung Chan in his lecture described advances and strategies analyzing the trials and tribulations in the medical treatment of aortic stenosis. Prof. Evandro Cesar Vidal Osterne reported technical options and results with Alcohol Septum Ablation. Prof. Terrence Ruddy's lecture Updated Strategies and Results with Cardiovascular PET.



Prof. João Jackson Duarte reported results of postoperative evolution of the Endovascular Approach for Aortic Dissecting Aneurysm. Prof. Tofy Mussivand's lecture highlighted the importance of the Thermal Therapy in the Treatment of Heart Failure. Prof. Elias Kallás Filho analyzed the Legal Implications in the Use of Artificial Cardiovascular Devices. The excellence of the meeting was confirmed by the invited lecture by Prof. Naranjan S. Dhalla who described his world-renowned contribution on the Role of Oxidative Stress in Ischemia-Reperfusion Injury – Implications for Cardiac Dysfunction in Coronary By-Pass Surgery.



Prof. Tofy Mussivand during his closing remarks confirmed the success of the joint meeting emphasizing the contribution for cardiovascular sciences based on the important new research proposals which emerged during the lectures discussion.



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Is There Something Fishy About Fish Oil?

By Alison Müller, Winnipeg, Canada

People are becoming increasingly aware of the disastrous effects of environmental pollution such as stretches of dead ocean, coral reef bleaching, and the Great Pacific Garbage Patch leaking plastic and poisons such as polychlorinated biphenyls (PCBs) and dichlorodiphenyltrichloroethane (DDT) into the ocean, where there is a justified increasing concern about the state of aquatic wildlife. In addition to the interest in improving the health and well-being of the flora and fauna that inhabit bodies of water affected by pollution, there is a rising issue regarding the effect of these pollutants on human health. Seafood is a staple in many diets internationally, and is becoming even more popular with research suggesting that increasing the level of consumed omega-3 fatty acids, present in seafood, can improve overall health, especially as protection against cardiovascular disease. Particularly in humans, fish oil has demonstrated antihypertensive activities, including reducing blood viscosity and impairing the growth of atherosclerotic plaques¹. In diets where the staple food includes cold water fish such as salmon, halibut, and/or trout, not only is there a reduction in the incidence of coronary heart disease, there is also a significant decrease in the number of sudden deaths caused by coronary heart disease^{2,3}.

The common concern arising from eating fish is that their habitat could be satiated with pollutants and that these pollutants are ingested by the human consumer. There is then the potential of these toxins to negatively affect human health. Another concern regards the possibility that various toxins, including PCBs, DDT, and mercury, are further concentrated in fish oil supplements which are taken as an alternative source of omega-3s. A factor that must be considered is that fish consumed are present in at various hierarchical levels in the food chain which is different compared to land-based protein sources that are either directly derived from plants or herbivores. This is important to note as a phenomenon called biomagnification occurs where animals higher in the food chain accumulate concentrated toxic substances in their body from their diet of animals lower on the food chain that are eating contaminated plants or algae. This is evident in the list of fish that pregnant women should avoid consuming as a result of increased concentration of mercury levels determined by the Food and Drug Association (FDA) and Environmental Protection Agency (EPA). The list includes top marine predators such as marlin, swordfish, king mackerel and Ahi tuna and suggests only monthly consumption of sea bass, bluefish, and canned, albacore, and yellow tuna. Studies that evaluated the level of cumulative toxins in individuals with a predominantly seafood diet found that significant detrimental effects on cardiovascular health remains to be determined^{4,5}.

What about fish oil supplements?

Fish oil is a concentrated collection of two omega-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) derived from fish and its supplementation is increasing in popularity as it is perceived as being a more natural source of omega-3s. There are numerous types of fish oil including over-the-counter cod liver oil, "pharmaceutical-grade" fish oil, and prescription fish oil (Lovaza). The good news regarding toxins in all fish oil is that there are negligible amounts of mercury as the form of mercury that accumulates in the flesh of fish is insoluble in oil and is deliberate target for removal in the purification process. In cod liver oil, the levels of PCBs and DDT have been measured in patients using it regularly as a dietary supplement, there have been found to be traces of toxins slight less than dangerous levels suggested by the World Health Organization (WHO)⁶. However, it is important to keep in mind that additional environmental toxins can be absorbed into the body from other food, water, or air and accumulate as well. Although cod liver oil may be less pure, the toxin levels vary among manufacturers. One of the recommended way to determine the purity of over-the-counter fish oil is by scent, where fish oil with a strong, rancid odour may suggest inadequate purification or expiration and would be more harmful than helpful to ones health⁷. Another type of fish oil that is commonly sold over the counter is labeled "pharmaceutical-grade" fish oil. Pharmaceutical-grade fish oil is a clever marketing scheme to give consumers the impression that it is an incredibly purified and potent substance. There is no true "pharmaceutical-grade" over the counter fish oil on the market, and there are currently no mandatory standards by which fish oil companies must purify their products. The best way to determine the potential efficacy of fish oil supplements is to look at the actual proportion of omega-3 fatty acid content displayed on the bottle as a 1 g capsule may only contain 0.2 g of omega-3 fatty acids meaning that one would have to consume numerous pills to get the recommended 0.5-1.8 g dosage of omega-3s. Finally, there is prescription-grade fish oil (Lovaza) available which goes through the FDA approval process and is extensively purified to remove all environmental toxins.

Although it is generally safe to take fish oil supplements with regard to environmental toxicity of its source, there have been a few studies that cautioned against its overuse or in certain patient situations. In addition to omega-3s, fish oil also has high concentrations of fat-soluble vitamins A and D and fish oil overuse can cause what is called hypervitaminosis (vitamin poisoning); however, when taken responsibly, this concern is negligible. There is also literature suggesting that fish oil increases bleeding risks in patients with acute atherosclerotic coronary artery disease. Some studies suggest that patients should cease fish oil therapy a week prior to surgical procedures⁷. However, there is also the suggestion of starting fish oil therapy greater than 5 days prior to major surgeries, such as coronary artery bypass surgery, as it reduces the risk of the common cardiac surgery complication called atrial fibrillation¹¹. Its affects pertaining to pre-operative use is still up for debate. There has also been a study recently performed by Dr. Davinder S. Jassal's lab at the Institute of Cardiovascular Sciences in Winnipeg, Manitoba where the consumption of fish oil was found to elevate the levels of triglycerides (fats) in the blood, increase left ventricular wall thickness (hypertrophy), and increase levels of the cardiac damage marker brain natriuretic peptide (BNP) in a mouse model with impaired fatty acid transportation caused by a deletion of the apolipoprotein E (ApoE) gene. ApoE is an protein that is involved in cellular lipid metabolism and the distribution of fatty acids into cells of the body and, in humans, is present in three different forms. The majority of the population has a functional ApoE protein and gains the beneficial actions from ingesting omega-3s found in fish oil; however, 1% of the general population has impaired ApoE function, represented by the ApoE2/2 genotype⁸, which makes it comparable to the mouse model used in Dr. Jassal's study. In this patient population, using fish oil as a dietary supplements or therapeutic intervention to reduce hypertension may be harmful to the heart.

In conclusion, the beneficial effects of taking fish oil as a dietary supplement are significantly greater when compared to the limited evidence regarding its potential negative effects as a result of environmental toxins and/or health complications. It is important to keep in mind the source and purity of the fish oil supplements in order to gain the healthiest and safest form of omega-3s, although it is possible to acquire these omega-3s the same way that fish do - by eating microalgae (or microalgae oil supplements). They are available as blue green algae and red marine algae oil supplements and contain the safest and purest form of omega-3s and are a more environmentally friendly alternative as there is rising concern about the slowly decreasing supply of fish in the sea.

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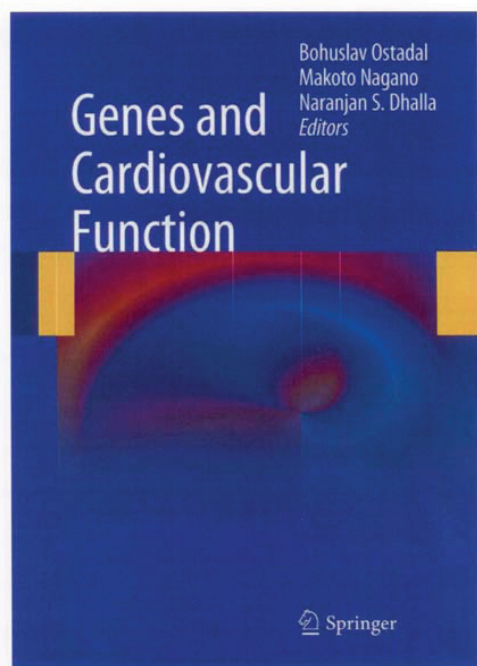


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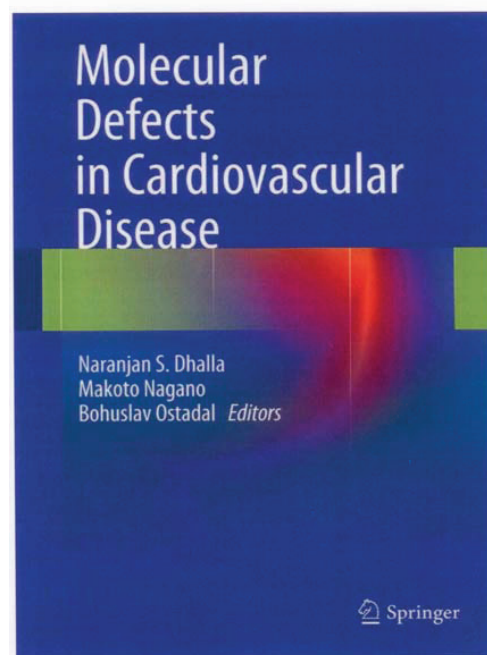
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