CURRICULUM VITAE Robert C. Welsh, MD, FRCPC, FACC, FAHA, FESC

Current Appointment Professor of Medicine

University of Alberta, Faculty of Medicine and Dentistry

Business Address 2C2 Walter C Mackenzie Health Science Centre

8440 – 112 Street NW Edmonton, AB T6G 2B7

Canada

Office Phone 780 407 3613
Office Fax 780 407 6452
Citizenship Canadian

Licensure

011767 College of Physicians and Surgeons of Alberta

499903 Royal College of Physicians and Surgeons of Canada

Education and Training

1985 – 1989 Bachelor of Arts (Psychology)

University of Saskatchewan

Saskatoon, Saskatchewan, Canada

1989 – 1993 **Doctor of Medicine (Distinction)**

University of Saskatchewan

Saskatoon, Saskatchewan, Canada

1993 – 1996 **Resident**, Internal Medicine

University of Saskatchewan, Royal University Hospital

Saskatoon, Saskatchewan, Canada

1995 – 1996 **Chief Resident**, Internal Medicine

University of Saskatchewan, Royal University Hospital

Saskatoon, Saskatchewan, Canada

1996 – 1999 Senior Cardiology Resident

University of Alberta, University of Alberta Hospital

Edmonton, Alberta, Canada

1997 – 1998 Chief Resident, Cardiology

University of Alberta, University of Alberta Hospital

Edmonton, Alberta, Canada

1999 – 2000 **Fellowship**, Interventional Cardiology

University of Alberta, University of Alberta Hospital

Edmonton, Alberta, Canada

Leadership Education and Training

University of Alberta

2014 Canadian Medical Association, Leadership Begins with Self Awareness

2016-2017 Gold College, University of Alberta Leadership development, Valedictorian

Licensure and Certification

January 1995 License, the Medical Council of Canada

October 1996 Internal Medicine, the American Board of Internal Medicine

June 1997 Fellow of Internal Medicine, Royal College of Physicians and Surgeons of

Canada

September 1999 Fellow of Cardiology, Royal College of Physicians and Surgeons of Canada

October 2001 Fellow, American College of Cardiology

October 2008 Fellow, American Heart Association

July 2012 Founder, Diploma of Interventional Cardiology, Royal College of Physicians and

Surgeons of Canada

Academic Appointments

2000 - 2006 Assistant Professor

Department of Medicine, University of Alberta

Edmonton, Alberta, Canada

2000 - 2006 Assistant Professor (Adjunctive Appointment)

College of Physical Education, University of Alberta

Edmonton, Alberta, Canada

2003 – 2008 **Director**, Cardiology Residency Training Program

Postgraduate Medical Education Office

Department of Medicine, University of Alberta

Edmonton, Alberta, Canada

2003 – 2008 Member, Core Internal Medicine Residency Program Committee

Postgraduate Medical Education Office

Department of Medicine, University of Alberta

Edmonton, Alberta, Canada

2006- 2013 Associate Professor

Department of Medicine, University of Alberta

Edmonton, Alberta, Canada

2013 - present **Professor**

Department of Medicine, University of Alberta

Edmonton, Alberta, Canada

Division of Cardiology and Department of Medicine Appointments / Major Committee Membership

2000 – Present	Co-Director and Co-Founder , University of Alberta Chest Pain Program, Division of Cardiology, University of Alberta Edmonton, Alberta, Canada	
2000 – 2003	Member , Cardiology Residency Training Program, Division of Cardiology, Department of Medicine, University of Alberta Edmonton, Alberta, Canada	
2000 – 2008	Emergency Department and External Liaison , Division of Cardiology, Department of Medicine, University of Alberta Edmonton, Alberta, Canada	
2001 – 2003	Acting Director, Division of Cardiology UAH Cardiac Rehabilitation Program Department of Medicine, University of Alberta Edmonton, Alberta, Canada	
2003 – 2004	Member , Department of Medicine Practice Plan Income at Risk Committee Department of Medicine, University of Alberta Edmonton, Alberta, Canada	
2004 – 2007	Member , Division of Cardiology Faculty Recruitment Committee, Division of Cardiology, Department of Medicine, University of Alberta Edmonton, Alberta, Canada	
2006 – 2008	Member , Search and Selection Committee for Director Division of Cardiology, Department of Medicine, University of Alberta Edmonton, Alberta, Canada	
2007 – Present	Director , Adult Cardiac Catherization Laboratory and Interventional Cardiology Department of Medicine, University of Alberta Edmonton, Alberta, Canada	
2010 – Present	Director and Founder , Peripheral Chest Pain Program, Mazankowski Alberta Heart Institute, Alberta Health Services Edmonton, Alberta, Canada	
2010 – Present	Co-Chair , Transcatheter Aortic Valve Implantation Program, Division of Cardiology, University of Alberta, Mazankowski Alberta Heart Institute Edmonton, Alberta, Canada	

Provincial, National and International Academic and Clinical Appointments / Committee Membership

2004 – Present	Co-Chair and Founder , Vital Heart Response, Alberta Health Services Edmonton, Alberta, Canada
2004 – 2008	Member , Specialty Committee in Cardiology, Royal College of Physicians and Surgeons of Canada Ottawa, Ontario, Canada
2005 – 2007	Member , Trainee Transition Services Working Group, Canadian Cardiovascular Society

Ottawa, Ontario, Canada

2005 – 2009	Member , Cardiology Examination Board, Royal College of Physicians and Surgeons of Canada Ottawa, Ontario, Canada
2005 – 2009	Member, Scientific Steering Committee, The Annual Cardiovascular Conference (ACC) Lake Louise / ACC Rockies Banff, Alberta, Canada
2006 – Present	Staff , Cardiac Sciences Program / Cardiology Section, Alberta Health Services Edmonton, Alberta, Canada
2007 –2013	Executive committee (Prairies Officer) , Canadian Association of Interventional Cardiology (CAIC) Montreal, Quebec, Canada
2007 – 2010	Co-Chair, Acute Coronary Syndromes Committee and Member , Cardiac Access Steering Committee, Alberta Health Services (Capital Health) Edmonton, Alberta, Canada
2008 – 2012	Member , Continuing Professional Development Committee, Canadian Cardiovascular Society Ottawa, Ontario, Canada
2008	External Reviewer , Endoscopy Clinical Program Review, Alberta Health Services Edmonton, Alberta, Canada
2008 – 2010	Co-Captain , CAD Track (ACS and AMI), Scientific Organizing Committee, Canadian Cardiovascular Society Ottawa, Ontario, Canada
2009 – Present	Co-Director , The Annual Cardiovascular Conference (ACC) Lake Louise / ACC Rockies Banff & Lake Louise, Alberta, Canada
2010 – Present	Co-Chair, Acute Coronary Syndromes Committee and Member , Alberta Health Services Strategic Clinical Network, Alberta Health Services Edmonton, Alberta Canada
2011 – Present	President , Canadian Centre for Clinicians and Scientists Edmonton, Alberta, Canada
2012 – Present	Governor Elect (Prairie Provinces, Canada) , American College of Cardiology, Washington, DC, United States of America
2012 – Present	Founding Member , Interventional Cardiology Education Committee and Working Group, Royal College of Physicians and Surgeons Ottawa, Ontario, Canada
2013 – 2015	Vice President, Canadian Association of Interventional Cardiology
2015 – Present	Zone Clinical Department Head , Cardiac Sciences, Edmonton Zone, Alberta Health Services

Leaves

None

Awards/Honors

September 2009 Canadian Institute of Health Research and the Canadian Medical Association

Journal Top Canadian Achievement in Health Research Award. Outstanding Canadian Health Researchers in the Spotlight, First ever CIHR- CMAJ Top Canadian Achievements in Health Research Award. Real-time link with doctors

saving lives. Canadian Medical Association Journal,

Edmonton Journal, September 28, 2009. http://www.edmontonjournal.com/health/Three+docs+honoured+heart+attack

+work/2042813/story.html

March 2010 Celebration of Research and Innovation Award.

University of Alberta, March 2010.

<u>http://www.research.ualberta.ca/en/CelebratingResearch/ProfiledAw</u> ards/Health/PaulArmstrong.aspx

Professional Memberships and Administrative Activities

Memberships

1996	Member, Canadian Medical Association
1997	Fellow (Internal Medicine), Royal College of Physicians and Surgeons of Canada
1998	Fellow in Training, American College of Cardiology
1999	Alberta Cardiovascular Society
1999	Member, The Alberta Medical Association
1999	Fellow (Cardiology), Royal College of Physicians and Surgeons of Canada
2001	Fellow, American College of Cardiology
2008	Fellow, American Heart Association

Grant Review, Advisory Committees, Scientific Societies

- 1. Canadian Institute of Health Research External Grant Reviewer
- 2. Canadian Coordinating Office for Health Technology Assessment External reviewer
- 3. Innovations Project Alberta Health and Wellness Reviewer

Editorial Boards

- 1. Canadian Journal of Cardiology 2014-
- 2. Atherosclerosis 2017 -

Journal Reviews and Scientific Abstract Reviews

- 1. Circulation
- 3. European Heart Journal
- 4. Journal of the American College of Cardiology
- 5. Interventional Journal of Cardiology
- 6. Heart
- 7. American Heart Journal
- 8. Canadian Journal of Cardiology
- 9. Medicine and Science in Sports and Exercise
- 10. Coronary Artery Disease
- 11. Canadian Drug Investigation
- 12. Canadian Cardiovascular Society Scientific abstract review
- 13. American Heart Association Scientific abstract review
- 14. Catheterization and Cardiovascular Interventions
- 15. Journal of Interventional Cardiology
- 16. Journal of the Texas Heart Institute
- 17. Nephron Journals (Clinical Practice, Experimental Nephrology, Physiology)

Institutional Administrative and Leadership Contributions

Teaching Contributions

Graduate Student Supervision

- 1. N. Rajabeli, MSc. Faculty of Graduate Studies and Research, Department of Medicine. Mr. Rajabeli successfully defended his thesis the 'Evaluation of ST elevation myocardial infarction (STEMI) patient care stakeholders' perceptions regarding paramedic-based pre-hospital management of STEMI patients through focus group and survey methodology' in September 2007. (co-supervised with Dr. Tsuyuki)
- 2. <u>Rabia Kashur, MSc (Candidate)</u>; Patient comprehensive of consent in the setting of clinical trials in STEMI. July 2013 June 2017 (anticipated)
- 3. Robbie Sindu

Graduate Student Committee Supervision

- 1. <u>D. Warburton, PhD</u>, Faculty of Physical Education and Recreation. Dr Warburton has received multiple awards and has developed into an outstanding investigator with multiple publications. PhD completion 2002.
- J. McGavock, PhD, Faculty of Physical Education and Recreation. "The effects of exercise training on cardiovascular function in older women with or without type II diabetes mellitus" defended in September, 2003. During his doctoral training, Mr. McGavock received two Canadian Association of Cardiac Rehabilitation Student Awards for research performed. In addition, he recently received an AHFMR/HSFC/CIHR – TORCH post-doctoral fellowship.
- 3. M. Stickland, PhDt. Faculty of Physical Education and Recreation. Dr Stickland has received multiple awards during his postgraduate training under our supervision. These included national and international recognition for the work as well as an Alumni Award at the University of Alberta. The research completed for his thesis is novel discovering that "interpulmonary shunts" open during exercise and contribute to exercise-induced hypoxia. This is groundbreaking research that will significantly enhance the knowledge of these abnormalities, which have been studied for the past several decades. Defended thesis, 2004.
- 4. <u>S. Mandic, PhD</u>, Faculty of Physical Education and Recreation. As part of her PhD studies, Ms. Mandic will examine the effects of exercise training on peripheral vascular endothelial function in individuals with chronic heart failure. Ms. Mandic received a 2002-2004, AHFMR/HSFC/CIHR- TORCH PhD studentship. Also on supervisory committee for her Masters of Science. Current.
- 5. <u>M. Kennedy, PhD</u>, Faculty of Rehabilitation Medicine. His primary research focus is related the acute effects of aerobic exercise on blood flow distribution and oxygen utilization in healthy individuals and elite athletes. Candidacy exam April 2004.
- 6. <u>C. Hung, MSc PT.</u> Ms. Hung successfully defended her MSc thesis project entitled "Effects of eight weeks of aerobic versus combined aerobic and strength training on maximal muscular strength, peak aerobic power and distance walked in six minutes and health-related quality of life in older women with cardiovascular disease" June, 2003.
- 7. <u>A. Dueck, MSc..</u> Ms. Dueck has completed her thesis and will defend August 2005. She has received 1st place award for University of Alberta Cardiac Sciences research presentation.
- 8. <u>K. Riess, PhD. Mr. Riess successfully defended his thesis 'Effect of Exercise Training on Cardiovascular Function and Fitness in Kidney Transplant Recipients' in March 2006.</u>
- 9. <u>J. Fech, RN, MSc.</u> Ms Fech completed her thesis defense 'Caring for the radial artery post-angiogram, comparison of two forms of compression: A pilot study' in September 2010.
- 10. <u>Pedro Sad, MSc Candidate</u>, School of Public Health. Mr. Sad is reviewing the clinical, safety, and cost impact of Transcatheter Aortic Valve Implantation under the direct supervision of Dr Devidas Menon: expected completion July 2013.
- 11. Vincent Tedjasaputra. Doctor of Philosophy in Physical Education and Recreation. The pulmonary vasculature during exercise in health and mild COPD. Completed June, 2017.
- 12. Roland Kevin Maier, School of Public Health, Completed September, 2017.
- 13. Robbie Sidhu, Masters, Department of Medicine, University of Alberta

CME Organization Yearly Events (Chair or Organizing Committee of CME events)

1. 2000-2009. Robert Welsh (chair), Wayne Tymchak, Po Kee Chung, TK Lee, Paul Greenwood. <u>The Cardiovascular Roundtable</u>. Jasper, AB. 6 hours.

- 2006-2009. Peter Klinke (chair), Wayne Warnica, Robert Welsh. <u>The Annual Cardiology Conference in Lake Louise</u> (2009 was 25th year). Lake Louise, AB. National involvement of 125-350 participants. 21 accredited hours of CME.
- 2009 Current. Robert Welsh (chair), Jacques Genest (co-chair), Todd Anderson, Bernie Gersh, and Peter Klinke. <u>The Annual Cardiology Conference in Lake Louise/Rockies.</u> Lake Louise/Banff, AB. National involvement of 125-350 participants. 21 accredited hours of CME.
- 4. 2010- Current. Paul Armstrong (chair), Robert Welsh, Chris Buller. <u>New Concepts in Acute Coronary Syndromes: Beyond 2000</u>. Yearly key symposium at the Canadian Cardiovascular Congress. Accredited 4 hours.

CME Organization (Chair or Organizing Committee of CME events)

- 1. June 2007. Eddy S Lang (chair), Brian Holroyd, Robert Welsh. <u>Optimizing the Management of your ACS Patient: A Case Based Approach.</u> Canadian Association of Emergency Physicians. Victoria, BC. Accredited 1 hour.
- 2. September. 2007. Robert Welsh (chair). <u>Early Treatment of ST Elevation Myocardial Infarction Expert</u> Meeting (the ESTEEM meeting). 6 hours.
- 3. October 2008. Robert C. Welsh (chair), PoKee Chung, and Wayne Tymchak. <u>Northern Alberta ACS</u> Symposium. Edmonton, AB. 12 presentations 7 hours.
- 4. October 2009. Robert C. Welsh (chair). <u>Optimizing Outcomes in ACS</u>. Canadian Cardiovascular Congress Satellite Symposium. Edmonton, AB. Accredited 2 hours.
- 5. March 2011. Robert Welsh (chair). <u>Evolving Strategies in Antiplatelet Therapy in ACS: Review of the data.</u> Canadian Society of Hospital Pharmacists. Banff, AB. Accredited 2 hours.
- 6. June 2011, Robert Welsh (chair). <u>Optimizing Patient Outcomes in ACS.</u> Canadian Association of Emergency Physicians. St John's, NL. Accredited 1 hour.

<u>CME Instruction</u> (Comprehensive CME Program Development)

- 1. 2002. Robert C. Welsh and Paul W. Armstrong. 'New Horizons in Acute Myocardial Infarction'. Comprehensive educational slide set for acute myocardial infarction. National distribution.
- 2. 2004. David Fitchett, Jacques Bedard, David Fitchett, Eric Letovsky, Robert Thivierge, Robert Welsh. 'Early Management of Acute Coronary Syndromes'. National distribution.
- 3. 2006. Andre Roussin, Alan Bell, Thomas Lindsay, Carl Fournier, Victor Huckell, Solomon Stern, Bruce Wheeler, Daniel Selchen, Robert Welsh. 'Atherothrombosis: Identifying disease and reduction risk'. Case based presentations of common disease state diagnosis and treatment. National distribution.
- 4. 2006. Robert C. Welsh. 'Long-Term Risk and antiplatelet management of atherothrombosis'. National distribution via webcasts.
- 5. 2006. Robert Welsh, Guy Tremblay, Michel Le May. 'Update on the Use of Oral Antiplatelet agents. Translating evidence based medicine into clinical practice'. National distribution.

- 6. 2007. David Fitchett, Barry Rose, Robert Welsh. 'Management of Acute Coronary Syndromes'. Four modules discussion anticoagulation therapy in patients with ACS. National distribution.
- 7. 2007. Alan Bell, Milan Gupta, Victor Huckell, Jafna Cox, Robert Welsh. 'From Head to Toe management of polyvascular disease'. 4 case based modules addressing range of vascular disease. Distributed nationally.
- 8. 2008. Shaun Goodman, Shamir Mehta, Jean-Francois Tanguay, Pierre Theroux and Robert Welsh. 'Management of Acute Coronary Syndromes. A focus on the role of antiplatelet therapy'. National distribution.
- 9. 2009. David Fitchett, Dr Gregoire, Robert Welsh. 'The Medical and Selectively Invasive Management of the ACS Patient'. Distributed regionally across Canada.
- 10. 2009. David Fitchett, Pierre Theroux, Shaun Goodman, Reda Ibrahim, Graham Wong, Jafna Cox, Robert Welsh. 'CASE program (Community for Acute Coronary Syndrome Education)'. Distributed regionally across Canada.
- 11. 2009. Shaun Goodman and Robert Welsh. 'Antithrombotic Treatment of Acute Coronary Syndromes in 2009: What Every Health Care Provider Needs to Know'. Distributed regionally across Canada.
- 12. 2011. Robert Welsh. 'Anti-thrombotic Therapy in Primary PCI for STEMI: Practical Implications from Clinical Trials'. PeerVoice web based national and international distribution.
- 13. 2011. Eric Cohen, Jean-Pierre Dery, Michael Farkouh, Robert Welsh. 'ACS update: New agents, new challenges!' Four modules covering utilization of evidence based therapy in spectrum of ACS patients. National Distribution.
- 14. 2011. Robert Welsh. 'The ACS Exchange. State of the ART ACS Management in 2011'. National presentation and Web distribution via WebMD Global.
- 15. 2012. Shaun Goodman, Eddy Lang, Richard Whitlock, Shamir Mehta, Jennifer Pickering, Alan Bell, Peter Lin, Eric Letovsky, Jean-Francois Tanguay, Robert Welsh. 'Cardiology C.A.R.E. in ACS (Clinical Advances for the Reduction of Events)'. Comprehensive educational modules for Cardiologists, General Internists, Interventional Cardiologists, Emergency Physicians and Pharmacists. National distribution.

Clinical Instruction and Supervisions

- 1. Cardiology Intensive Care Unit. 4 weeks/year. Approximately six trainees.
- 2. Cardiology Ward. 2 weeks/year. Approximately one trainee.
- 3. Cardiology Consultation Service. 2 weeks/year. Approximately one trainee.
- 4. Cardiology Outpatient Clinics. Infrequent clinical trainees.
- 5. Cardiology Core Curriculum. Various topics in cardiology core curriculum one to two times yearly with ten cardiology trainees for the duration of one hour.
- Department of Medicine General Internal Medicine In-Training Examination. Once to twice yearly OSCEbased, informal internal medicine training examinations are completed accounting for four hours of contact yearly.
- 7. Cardiac Catheterization laboratory and interventional Cardiology. 2 days/week. 1 trainee.

Clinical Contributions

Current Clinical Service (Mazankowski Alberta Heart Institute)

- 1. Cardiology Intensive Care Unit 4 weeks/year
- 2. Cardiology Consults 4 weeks/year
- 3. Cardiology Outpatient Clinic ½ day/week
- Cardiac Catheterization Laboratory and Interventional Cardiology 2 days/week
- 5. Vital Heart Response Call 13 weeks/year
- 6. Interventional Cardiology Call 7 weeks/year
- 7. Cardiology Intensive Care Unit Call 4 weeks/year
- 8. Cardiology Weekend Call 4 weeks/year

Clinical Innovation, Outreach, and Global Health Initiatives

2000 - Present

Co-Director and Co-Founder, University of Alberta Chest Pain Program, Division of Cardiology, University of Alberta, Edmonton, Alberta, Canada.

Designed, implemented and funded the first formal Chest Pain Assessment unit in Canada in conjunction with Dr B. Holroyd. The program manages between 750 - 1200 patients/year and was shown to reduce the rate of inappropriate discharge of high-risk patients from the emergency department. Additionally the program facilitates timely discharge from the emergency department where appropriate. The program is currently expanding provincially as a tool for peripheral emergency departments formally (**Director and Founder**, Peripheral Chest Pain Program, Mazankowski Alberta Heart Institute, Alberta Health Services) and informally through the Emergency Clinical Care Network electronic Clinical Practice Guidelines (eCPG) initiative.

2004 - Present

Co-Chair and Founder, Vital Heart Response, Alberta Health Services, Edmonton, Alberta, Canada.

Developed, designed and implemented the first paramedic based pre-hospital dual reperfusion program fully integrated into regional cardiology care. Through research we initiated the first systematic pre-hospital STEMI treatment program in Canada (collaborator - Dr. Paul Armstrong). The success of this 'proof of concept' led to formation of a regional steering committee (Drs. Neil Brass (co-chair) and Sunil Sookram). This program facilitates individual patient risk assessment and reperfusion decision in a timely manner - the most important factor to improve STEMI patients outcome. The clinical platform has allowed expansion of the program to treat STEMI patients in Edmonton as well as our rural referral regions (approximately 1.8 million Albertans served). The program has been acknowledged for its success nationally and internationally. Recent evidence (2009-2011) from the Canadian Institute of Health Information demonstrates that Alberta has the lowest 30 day mortality in this patient population. The regions treated by the Vital Heart Response program have the lowest 30-day mortality in the province of Alberta.

2007 - Present

Director, Adult Cardiac Catheterization Laboratory and Interventional Cardiology, Department of Medicine, University of Alberta, Edmonton, Alberta, Canada.

Developed and implemented weekly quality assurance and clinical case conference to unify the Interventional Cardiology group approach to revascularization and provide a forum to discuss patient safety.

2010 - Present

Co-Chair, Acute Coronary Syndromes Committee and Member, Cardiovascular Health and Stroke Strategic Clinical Network, Alberta Health Services.

Provincial clinical initiative focused on improving care for the full spectrum of patients with Acute Coronary Syndromes in the province of Alberta. The program is co-chaired by Drs Welsh and Traboulsi and has developed clinical care pathways that are currently being implemented across the province in conjunction with a quality assurance program to assess success and provide further improvements.

2010 - Present

Co-Chair, Transcatheter Aortic Valve Intervention Program, Division of Cardiology, University of Alberta, Mazankowski Alberta Heart Institute, Edmonton, Alberta, Canada. Developed and implemented the first percutaneous transcatheter aortic valve implantation (TAVI) program in Alberta. This includes a dedicated quality assurance initiative tracking outcomes of all referred patients. This program provides a minimally invasive approach to the treatment of patients with severe aortic stenosis who are at prohibitively high risk or are not candidates for open aortic valve replacement. Untreated these patient have a poor prognosis with a 2 year mortality of > 50%. This program was a regional initiative and was the first centre in Alberta to offer this novel therapy. Specifically, the native aortic valve is replaced by implanting a valve mounted on a stent through a catheter. More than 65 procedures have been completed to date.

Research

Research Academic Leadership

2002 – 2004	Robert C. Welsh - Principal Investigator. The PURGE study: Pre-hospital reperfUsion Research Group of Edmonton
2002 – 2006	Robert C. Welsh, Canadian National Coordinator and steering committee. The which early ST-elevation therapy study. The WEST study.
2005 – 2012	Robert C. Welsh, Steering Committee. Canadian Registry of Acute Coronary Events (CANRACE)
2006 - Present	Robert C. Welsh - Principal Investigator. The Vital Heart Response registry.
2006 – 2009	Robert C. Welsh, Steering Committee. Strategic Reperfusion Early after ST Elevation Myocardial Infarction – The STREAM study
2008 – 2010	Robert C. Welsh - Principal Investigator. Providing Rapid Out of Hospital Acute Cardiovascular Treatment
2011 – 2016	Robert C. Welsh, Canadian National Coordinator and steering committee. A randomized trial of
	routine aspiration thromobectomy with PCI versus PCI alone in patients with STEMI undergoing primary PCI
2011 – 2013	Robert C. Welsh – Co-Principal Investigator. Providing Rapid Out of Hospital Acute
	Cardiovascular Treatment – ACS and HF (PROACT-3)
2013 – 2015	Robert C. Welsh – Co-Principal Investigator. Providing Rapid Out of Hospital Acute
	Cardiovascular Treatment – ACS (PROACT-4)
2013 – 2017	Robert C. Welsh, Steering Committee. Prospective Canadian Observational AntiPlatelet sTudy (COAPT)
2013 - Present	Robert C. Welsh - Principal Investigator. Alberta Contemporary Acute Coronary Syndrome
	Patients Invasive Treatment Strategies: impact on Clinical Outcomes and Health Care Resources -
	Alberta COAPT study. Steering committee: Imtiaz Ali, Paul W. Armstrong, Kevin Bainey, Neil
	Brass, Padma Kaul, Merrill Knutdson, Jayan Nagendran, Colleen Norris, Mouhieddin Traboulsi,
	and Robert C. Welsh
2012 – 2017	Robert C. Welsh - Principal Investigator. A Multi-center Randomized Trial of Remote Ischemic Conditioning in Patients with an ST-segment Elevation Myocardial Infarction (RemCon-STEMI)
2013 – Present	Robert C. Welsh, Steering Committee. A randomized, comparative effectiveness study of
2013 – 11 tstiit	complete versus culprit-only revascularization strategies to treat multi-vessel disease after
	primary percutaneous coronary intervention for ST-segment elevation myocardial infarction
2013 – 2017	Robert C. Welsh, Canadian National Coordinator. An OPen-label, Randomized, Controlled,
	Multicenter Study Exploring TwO TreatmeNt StratEgiEs (Rivaroxaban or Dose-Adjusted Oral
	Vitamin K Antagonist Plus Dual Antiplatelet Therapy Followed by Rivaroxaban Plus Single
	Antiplatelet Therapy) in Subjects With Atrial Fibrillation Who Undergo Percutaneous Coronary
2012 Dungsont	Intervention - PIONEER AF-PCI
2013 – Present	Robert C. Welsh - Principal Investigator. The impact of regional reperfusion program in STEMI

patients – Vital Heart Response and the PROACT extension studies.

2014 – 2018	Robert C. Welsh, Steering Committee. Aspirin versus Aspirin + Clopidogrel as Antithrombotic Treatment Following Transcatheter Aortic Valve Implantation with a Balloon-Expandable Valve. The ARTE Randomized Clinical Trial
2014 – Present	Robert C. Welsh, Co-chair Clinical Endpoints Adjudication Committee. Tailoring Antiplatelet Initiation to lessen outcomes due to decreased clopidogrel response after percutaneous coronary intervention – TAILOR-PCI
2015 – 2017	Robert C. Welsh, Canadian National Coordinator and Executive Committee. A Randomized Trial to Compare the Safety of Rivaroxaban versus Aspirin in Addition to Either Clopidogrel or Ticagrelor in Acute Coronary Syndrome: The GEMINI-ACS-1 Phase II Study
2015 – Present	Robert C. Welsh, Steering Committee . Canadian Spontaneous Coronary Artery Dissection (SCAD) Study
2015 - 2018	Robert C. Welsh, Steering Committee. The Multidisciplinary, Multimodality, but Minimalist (3M) Approach to Transfemoral Transcatheter Aortic Valve Replacement (TAVR) Trial 3M TAVR Trial Protocol
2015 – Present	Robert C. Welsh, Canadian National Coordinator and Steering Committee. An Open-label, 2 x 2 Factorial, Randomized Controlled, Clinical Trial to Evaluate the Safety of Apixaban vs. Vitamin K Antagonist and Aspirin vs. Aspirin Placebo in Patients with Atrial Fibrillation and Acute Coronary Syndrome or Percutaneous Coronary Intervention
2015 – Present	Robert C. Welsh, Canadian National Coordinator and Executive Committee.: Global multicenter, randomized, open-label comparison of a rivAroxaban-based antithrombotic strategy with an antipLatelet-based strategy after transcatheter aortic valve replacement to Optimize clinical outcomes — the GALILEO study.
2016 - Present	Robert C. Welsh, Co-Principal Investigator. Short-term Effects of Transcatheter Aortic Valve Implantation on Frailty and Quality of Life.
2017 – Present	Robert C. Welsh, Steering Committee . CONNECT AF+PCI: COordinated National Network to Engage Cardiologists in the antithrombotic Treatment of patients with Atrial Fibrillation undergoing Percutaneous Coronary Intervention.
2017 - Present	Robert C. Welsh, Steering Committee . CoLchicinE in patients with Acute coronary syndromes or Stable Angina
2017 – Present	Robert C. Welsh, Co-Principal Investigator and Executive Committee. Strategic Reperfusion Early after ST Elevation Myocardial Infarction 2 – The STREAM -2 study

Research Grants

Summary – Grant funding	23 Grants	
Total funding	\$4,125,830.68	
Peer-Reviewed Grants	\$2,255,079.00	
Industry Grants for Scientific or Clinical Programs	\$1,817,751.68	

Currently Active Grants

2014 -	Title	Providing Rapid Out of Hospital Acute Cardiovascular Treatment 4	
	PI	Justin Ezekowitz	
	Co-PI	Robert C. Welsh, Paul W. Armstrong, Padma Kaul, Cynthia Westerhout	
	Budget	\$233,537	
	Funding Type	Peer Reviewed	
	Grant Type	Operational Grant	
	Funding Agency	Heart and Stroke Foundations	
2013 - 2014	Title	A Study of Remote Ischemic Conditioning in Patients	

with ST-segment Elevation Myocardial Infarction

(RemCon-STEMI) Kevin Bainey

Co-PI Robert C. Welsh, Paul W. Armstrong

Budget \$35 000 Funding Type Peer Reviewed Grant Type Operational Grant

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Title

Funding Agency University Hospital Foundation

2013 - 2014

Vital Heart Extension – Atrial Fibrillation and Left

Ventricular Dysfunction

PI Robert C. Welsh Budget \$37,448.68 Funding Type Industry

Grant Type Research Grants
Funding Agency Boehringer Ingelheim

2011 - 2014 Title Providing Rapid Out of Hospital Acute Cardiovascular

Treatment (PROACT)

PI Paul Armstrong

Co-Pl Justin Ezekowitz, Padma Kaul, Finlay McAlister, Robert

Welsh

Budget \$325 000 Funding Type Peer Reviewed Grant Type Operational Grant

Funding Agency Mazankowski Alberta Heart Institute Foundation

2012 - 2014 Title Assessment of Patients with Stable Chest Pain: What is

the best initial imaging strategy? Cardiac Computed Tomographic Angiography (CCTA) vs Stress

Echocardiography (SE) vs SPECT.

PI Harald Becher

Co-Pl J Choy, R Coulden, L Lalonde, L Savard, Ross Tsuyuki, R

Welsh

Budget \$300 000 (for 2 years)
Funding Type Peer Reviewed
Grant Type Operational Grant

Funding Agency Mazankowski Alberta Heart Institute Foundation

2012 - 2015 Title A randomized trial of ThrOmbectomy vs. PCI Alone for

STEMI (TOTAL trial).

PI Sanjit Jolly

Co-Pl R. Afzal, O Bertrand, J Cairns, W Cantor, A Cheema, V

Dzavik, A Fung, A Lamy, S Lavi, S Mehta, M Natarajan, L

Thabane, R Welsh, S Yusuf

Budget \$682 557 (for 3 years)

Funding Type Industry Partnered Collaborative Research

Grant Type Operational Grant

Funding Agency Canadian Institutes of Health Research

2014 – present Title COMPLETE Trial: Complete revascularization versus

optimal medical therapy to treat residual multi-vessel

disease in patients with ST-segment elevation

myocardial infarction.

PI Shamir Mehta

Co-Pl J Cairns, D Wood, K Bainey, S Jolly, A Lamy, W Cantor, A

Cheema, V Dzavik, S Lavi, M Natarajan, J Tanguay, R

Welsh, R Whitlock

Budget \$198 575 (for 5 years)

Funding Type

Grant Type Operational Grant

Funding Agency Canadian Institutes of Health Research

Completed Grants

2001 – 2004 Title University of Alberta Chest Pain Program

PI Robert Welsh

Co-PI N/A Budget \$450 000

Funding Type Investigator Initiated
Grant Type Operational Grant
Funding Agency Hoffman LaRoche

2003 – 2004 Title REASSESS Study: Cardiac study of diabetic patients with

potential renal transplantation

PI Robert Welsh

Co-PI N/A Budget \$9 800

Funding Type Industry Funded
Grant Type Investigator Initiated
Funding Agency Pfizer Canada Inc.

2003 – 2006 Title Which Early ST-Elevation Myocardial Infarction

Therapy? The WEST Trial

PI Paul Armstrong (Robert Welsh – steering committee)

Co-PI N/A
Budget \$261 483
Funding Type Industry Funded
Grant Type Investigator Initiated

Funding Agency VIGOUR Centre -Hoffman LaRoche -Aventis Pharma

2003 – 2004 Title University of Alberta Chest Pain Program

PI Robert Welsh

Co-PI N/A
Budget \$100 000
Funding Type Industry Funded
Grant Type Investigator Initiated
Funding Agency Sanofi Synthélabo

2004 Title Reperfusion Review in Rural Alberta of ST-Elevation AMI

- The Rural AMI Study.

PI Robert Welsh

Co-PI N/A Budget \$23 000

Funding Type Industry Funded
Grant Type Investigator Initiated
Funding Agency Aventis Pharma Inc.

2004 – 2005 Title University of Alberta Chest Pain Program (UACAPS)

PI Robert Welsh

Co-PI N/A
Budget \$162 000
Funding Type Industry Funded
Grant Type Investigator Initiated
Funding Agency Aventis Pharma Inc

2004 – 2005 Title Cardiac Risk Stratification of Diabetic Patients

Undergoing Assessment for Renal or Renal/Pancreas

Transplantation

PI Robert Welsh

Co-PI N/A Budget \$9820

Funding Type Industry Funded
Grant Type Investigator Initiated
Funding Agency Pfizer Pharmaceuticals

2006 – 2007 Title Pre-hospital Paramedical Management of STEMI:

Interrogation of attitudes, knowledge and capabilities of paramedic pre-hospital assessment, diagnosis, triage

and treatment of ST elevation acute myocardial

infarction patients.

PI Robert Welsh Co-PI Naheed Rajabali

Budget \$90 000

Funding Type -

Grant Type QE II Masters Scholarship Funding Agency University of Alberta

2007 – 2009 Title Canadian National PCI Registry

PI Robert Welsh

Co-PI

Budget \$560 000
Funding Type Industry Funded
Grant Type Investigator Initiated
Funding Agency Sanofi Avenits

2007 – 2008 Title The Role of Anticoagulation in the Trans-Radial

Approach for Coronary Angiogram

PI Robert Welsh

Co-PI -

Budget \$25 000

Funding Type Industry Funded
Grant Type Investigator Initiated

Funding Agency Eli Lilly

2008 Title Annual Cardiovascular Congress in Lake Louise

PI Jacques Genest

Co-PI Peter Klinke, Wayne Warnica, Robert Welsh

Budget \$10 000

Funding Type -

Grant Type Knowledge Translation Grant

Funding Agency Canadian Institutes of Heart Research

2008 – 2011 Title Tracking Gender Differences in Acute Coronary

Syndromes: At First Point of Care And Beyond

PI Padma Kaul

Co-PI Robert Welsh, Michelle Graham, Colleen Norris, Paul

Armstrong

Budget \$416 054

Funding Type Non-Industry Funded Grant Type Research Grant

FUNDING ASENCY CITI	Fundin	g Agency	CIHR
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2009 Title Annual Cardiovascular Congress in Lake Louise

PI Jacques Genest

Co-PI Peter Klinke, Wayne Warnica, Robert Welsh

Budget \$10 000

Funding Type

Grant Type Knowledge Translation Grant

Funding Agency Canadian Institutes of Heart Research

2009 Title National Prospective Observational Phase IV Study on

the Use of LMWH in the Setting of Percutaneous

Coronary Intervention

PI Robert Welsh

Co-PI -

Budget \$88 400

Funding Type Industry Funded
Grant Type Investigator Initiated
Funding Agency Sanofi Aventis

2009 Title Impact of Non-Culprit PCI in Multivessel Coronary

Artery Disease ST-Elevation Myocardial Infarction

Patients Undergoing Primary PCI

PI Robert Welsh Co-PI Naheed Rajabali

Budget \$5200

Funding Type Non-Industry Funded

Grant Type Montyl Endowment Summery Studentship

Funding Agency University of Alberta

2011 Title Video KT of Acute Coronary Syndrome (Prodromal

Symptoms and WEST Study)

PI Sanjay Sharma

Co-PI Paul Armstrong, Robert Welsh

Budget \$44 338

Funding Type

Grant Type Knowledge Translation Grant

Funding Agency Canadian Institutes of Heart Research

Publications

Summary

Total Publications	378
Peer-Reviewed Original Research	138
Peer-Reviewed - Invited Reviews, Editorials and National Guidelines	32
Listed Collaborator (Cited)	20
Invited Reviews and Editorials (Not Cited)	11
Books / Book Chapters	8
Online / other	26
Abstracts	143

Peer-Reviewed Original Research (Note: Underlined co-authors denote supervised trainee)

- 1. Cujec B, Welsh R, Aboguddah A, Reeder B. Comparison of Doppler echocardiography and cardiac catheterization in patients requiring valve surgery: search for a 'gold standard'. Can J Cardiol. 1992 Oct;8(8):829-38.
- 2. Welsh RC, Tymchak WJ. An unusual case of ST elevation in a 39-year-old man. Can J Cardiol. 2000 Feb;16(2):215-7. Erratum in: Can J Cardiol 2000 May;16(5):693.
- 3. <u>Warburton</u> DER, Welsh RC, Haykowsky MJ, Taylor DA, Humen DP, Dzavik V. Effects of half ironman competition on the development of late potentials. Med Sci Sports Exerc. 2000 Jul;32(7):1208-13.
- 4. Haykowsky M, Welsh R, Humen D, <u>Warburton</u> D, Taylor D. Impaired left ventricular systolic function after a half-ironman race. Can J Cardiol. 2001 Jun;17(6):687-90.
- 5. McGavock JM, Warburton DE, Taylor D, Welsh RC, Quinney HA, Haykowsky MJ. The effects of prolonged strenuous exercise on left ventricular function: a brief review. Heart Lung. 2002 Jul-Aug;31(4):279-92; quiz 293-4.
- 6. <u>Warburton</u> DE, Welsh RC, Haykowsky MJ, Taylor DA, Humen DP. Biochemical changes as a result of prolonged strenuous exercise. Br J Sports Med. 2002 Aug;36(4):301-3.
- 7. McGavock J, Haykowsky M, Warburton D, Taylor D, Quinney A, Welsh R. Left ventricular systolic performance during prolonged strenuous exercise in female triathletes. Dyn Med. 2003 Apr 8;2(1):2.
- 8. Theroux P, Welsh RC. Meta-analysis of randomized trials comparing enoxaparin versus unfractionated heparin as adjunctive therapy to fibrinolysis in ST-elevation acute myocardial infarction. Am J Cardiol. 2003 Apr 1;91(7):860-4.
- 9. <u>Warburton DE, McGavock J, Welsh RC, Haykowsky MJ, Quinney HA, Taylor D, Dzavik V. Late potentials in female triathletes before and after prolonged strenuous exercise. Can J Appl Physiol. 2003 Apr;28(2):153-64.</u>
- 10. McGavock JM, Mandic S, Vonder Muhll I, Lewanczuk RZ, Quinney HA, Taylor DA, Welsh RC, Haykowsky M. Low cardiorespiratory fitness is associated with elevated C-reactive protein levels in women with type 2 diabetes. Diabetes Care. 2004 Feb;27(2):320-5.
- 11. McGavock J, Mandic S, Lewanczuk R, Koller M, Muhll IV, Quinney A, Taylor D, Welsh R, Haykowsky M. Cardiovascular adaptations to exercise training in postmenopausal women with type 2 diabetes mellitus. Cardiovasc Diabetol. 2004 Mar 15;3(1):3.
- 12. Welsh RC, Goldstein P, Adgey J, Verheugt F, Bestilny SA, Wallentin L, Van de Werf F, Armstrong PW; Assessment of the Safety and Efficacy of a New Thrombolytic (ASSENT) 3 Plus Trial Investigators. Variations in pre-hospital fibrinolysis process of care: insights from the Assessment of the Safety and Efficacy of a New Thrombolytic 3 Plus international acute myocardial infarction pre-hospital care survey. Eur J Emerg Med. 2004 Jun;11(3):134-40.
- 13. <u>Stickland</u> MK, Anderson WD, Haykowsky MJ, Welsh RC, Petersen SR, Jones RL. Effects of prolonged exercise to exhaustion on left-ventricular function and pulmonary gas exchange. Respir Physiol Neurobiol. 2004 Sep 15;142(2-3):197-209.
- 14. <u>Hung</u> C, Daub B, Black B, Welsh R, Quinney A, Haykowsky M. Exercise training improves overall physical fitness and quality of life in older women with coronary artery disease. Chest. 2004 Oct;126(4):1026-31.

- 15. <u>Stickland MK</u>, Welsh RC, Haykowsky MJ, Petersen SR, Anderson WD, Taylor DA, Bouffard M, Jones RL. Intra-pulmonary shunt and pulmonary gas exchange during exercise in humans. J Physiol. 2004 Nov 15;561(Pt 1):321-9. Epub 2004 Nov 15.
- 16. <u>Platonov MA</u>, Turner AR, Mullen JC, Noga M, Welsh RC. Tumour on the tricuspid valve: metastatic osteosarcoma and the heart. Can J Cardiol. 2005 Jan;21(1):63-7.
- 17. Welsh RC, Chang W, Goldstein P, Adgey J, Granger CB, Verheugt FW, Wallentin L, Van de Werf F, Armstrong PW; ASSENT-3 PLUS Investigators. Time to treatment and the impact of a physician on prehospital management of acute ST elevation myocardial infarction: insights from the ASSENT-3 PLUS trial.Heart. 2005 Nov;91(11):1400-6. Epub 2005 Mar 17.
- 18. Haykowsky M, <u>McGavock</u> J, Vonder Muhll I, Koller M, <u>Mandic</u> S, Welsh R, Taylor D. Effect of exercise training on peak aerobic power, left ventricular morphology, and muscle strength in healthy older women. J Gerontol A Biol Sci Med Sci. 2005 Mar;60(3):307-11.
- 19. Senior PA, Welsh RC, McDonald CG, Paty BW, Shapiro AM, Ryan EA. Coronary artery disease is common in nonuremic, asymptomatic type 1 diabetic islet transplant candidates. Diabetes Care. 2005 Apr;28(4):866-72.
- 20. Fitchett D, Welsh R, Langer A, Goodman S. Enoxaparin and percutaneous coronary intervention: a Canadian perspective. J Cardiol. 2005 May 1;21(6):501-7.
- 21. Welsh RC, <u>Warburton</u> DE, Humen DP, Taylor DA, <u>McGavock</u> J, Haykowsky MJ. Prolonged strenuous exercise alters the cardiovascular response to dobutamine stimulation in male athletes. Physiol. 2005 Nov 15;569(Pt 1):325-30. Epub 2005 Sep 8.
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- 24. <u>Stickland</u> MK, Welsh RC, Petersen SR, Tyberg JV, Anderson WD, Jones RL, Taylor DA, Bouffard M, Haykowsky MJ. Does fitness level modulate the cardiovascular hemodynamic response to exercise? J Appl Physiol. 2006 June; 100(6): 1895-901.
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- 27. Ezekowtiz, J, Theroux P, Welsh R, Bata I, Webb J, Armstrong P for the WEST investigators. Insights Into the Change in Brain Natriuretic Peptide After STEMI: Why Should it be Better Than Baseline? Can J Physiol Pharmacol. 2007 Jan;85(1):173-178.

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- 33. Ezekowitz JA, Kaul P, Bakal JA, Armstrong PW, Welsh RC, McAlister FA. Declining in-hospital mortality and increasing heart failure incidence in elderly patients with first myocardial infarction. J Am Coll Cardiol. 2009 Jan 6;53(1):13-20.
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- 35. <u>Rajabali</u> NA, Tsuyuki RT, Sookram S, Simpson SH, Welsh RC. Evaluation of attitudes and perceptions of key clinical stakeholders regarding out-of-hospital diagnosis and treatment of ST elevation myocardial infarction patients using a region-wide survey. Emerg Med J. 2009 May;26(5):371-6.
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- 38. <u>Rajabali</u> NA, Tsuyuki RT, Sookram S, Simpson SH, Welsh RC. Evaluating the views of paramedics, cardiologists, emergency department physicians and nurses on advanced prehospital management of acute ST elevation myocardial infarction. Can J Cardiol. 2009 Sep;25(9):e323-8.
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- 45. Lee TC, Goodman SG, Yan RT, Grondin FR, Welsh RC, Rose B, Gyenes G, Zimmerman RH, Brossoit R, Saposnik G, Graham JJ, Yan AT; Canadian Acute Coronary Syndromes I and II, Canadian Global Registry of Acute Coronary Events (GRACE/GRACE2) and the Canadian Registry of Acute Coronary Events (CANRACE) Investigators. Disparities in management patterns and outcomes of patients with non-ST-elevation acute coronary syndrome with and without a history of cerebrovascular disease. Am J Cardiol. 2010 Apr 15;105(8):1083-9. Epub 2010 Feb 20.
- 46. Welsh RC, Granger CB, Westerhout CM, Blankenship JC, Holmes DR Jr, O'Neill WW, Hamm CW, Van de Werf F, Armstrong PW; APEX AMI Investigators. Prior coronary artery bypass graft patients with ST-segment elevation myocardial infarction treated with primary percutaneous coronary intervention. JACC Cardiovasc Interv. 2010 Mar;3(3):343-51.
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Summary Scientific Presentations

Invited International Scientific Presentations	49
Invited National Scientific Presentations	111
	160

Invited International Scientific Presentation

1.	February 2002	Optimal Management of Acute Myocardial Infarction. Phoenix, Arizona, United States of America
2.	April 2002	Coronary Reperfusion and Secondary Prevention. Acute Coronary Syndromes: Different Treatment Strategies in Different Countries. Oberlech, Austria
3.	April 2002	Coronary Reperfusion and Secondary Prevention. New Developments in Coronary Stenting. Oberlech, Austria
4.	April 2002	Coronary Reperfusion and Secondary Prevention. Gp IIB/IIIa Receptor Blockers in Support of Cath Lab Intervention: Debate. Oberlech, Austria
5.	April 2002	Coronary Reperfusion and Secondary Prevention. Pre-Hospital Fibrinolysis in ST Elevation AMI: Who, When and Whom. Oberlech, Austria
6.	September 2002	5 th National Congress of Chest Pain Centers. A Canadian Perspective on Chest Pain Units. New Haven, Connecticut, United States of America
7.	November 2002	American Heart Association. Prehospital Fibrinolysis: Post Assent-3 Plus. Chicago, Illinois, United States of America
8.	January 2003	JANUS VI, Pre-Hospital Care in a Canadian Environment. Montego Bay, Jamaica

9.	March 2003	Coronary Reperfusion and Secondary Prevention. Gp IIb/IIIa is Mandatory in High-Risk Patients with ACS. Oberlech, Austria
10.	May 2003	Forum on Acute Coronary Syndromes Management: Clinical Update, Critical Appraisal and Practical Implications. Institute of Cardiology Bologna University. Moving Forward: Latest Results in ST Elevation AMI. Bologna, Italy
11.	August 2003	Acute Coronary Syndrome Advisory Board at the European Society of Cardiology. <i>(Chairman – R. C. Welsh)</i> Vienna, Austria
12.	January 2004	JANUS VII, Which Early ST Elevation Therapy? - The WEST Study - Optimal Combined Reperfusion Strategies - The Edmonton Experience. Montego Bay, Jamaica
13.	March 2004	Coronary Reperfusion and Secondary Prevention. Predicting the Risk of Patients with Acute Coronary Syndromes. Oberlech, Austria
14.	March 2004	Coronary Reperfusion and Secondary Prevention. Pre-Hospital Reperfusion Strategies and Important Issues in Reperfusion Therapy. Oberlech, Austria
15.	April 2004	International Experts Workshop on Early Treatment Strategies for Acute Myocardial Infarction. Pre-Hospital (and How to Organize it). Mallorca, Spain
16.	August 2004	Aventis Canadian Interventional Cardiology Expert Meeting. Which Early ST Elevation Therapy? - The WEST Study - Optimal Combined Reperfusion Strategies - The Edmonton Experience. Munich, Germany
17.	October 2004	Genetech Investigator Summit on Thrombolytics. Pre-Hospital Strategies to Decrease Temporal Delay in the Treatment of STEMI: "It's A Matter of Time". Beverly Hills, California, United States of America
18.	April 2005	Coronary Reperfusion and Secondary Prevention. Cardiac Risk Stratification In Diabetic Patients Undergoing Assessment for Renal/Pancreas or Islet Transplantation. Oberlech, Austria
19.	April 2005	Coronary Reperfusion and Secondary Prevention. The Utility of a Chest Pain Program for Risk Stratification of Patients Presenting to the Emergency Department. Oberlech, Austria
20.	April 2005	International Experts Workshop on Early Treatment Strategies for Acute Myocardial Infarction. Pre-Hospital (and How to Organize it). Mallorca, Spain
21.	March 2006	American College of Cardiology Summit. Percutaneous Coronary Intervention: to Transfer or Not? Core Curriculum 703. STEMI 2006: The First 24 Hours.

Atlanta, Georgia, United States of America

22.	April 2006	Coronary Reperfusion and Secondary Prevention. Renal Insufficiency: A Novel Risk Predictor in CAD. Oberlech, Austria
23.	April 2006	Coronary Reperfusion and Secondary Prevention. Antithrombins in Cardiac Disease. Oberlech, Austria
24.	April 2006	Reflections on Time, Recent Reperfusion Trials and the Edmonton Approach to STEMI. Durham, North Carolina, United States of America
25.	May 2006	12 th International Symposium on Ischemic Heart Disease. Pre-Hospital Thrombolysis. Tarragona, Spain
26.	September 2006	European Society of Cardiology, Canadian Cardiology Advisory Board Meeting. Canadian Trends and Challenges in ACS Management: UA, N-STEMI, STEMI. Barcelona, Spain
27.	March 2007	Sanofi Aventis and Bristol-Myers Squibb Canadian Cardiology Consultant Meeting. New Orleans, Louisiana, United States of America
28.	April 2007	Cardio Congress, Coronary Reperfusion and Secondary Prevention. Networks in USA and Canada. Oberlech, Austria
29.	April 2007	Cardio Congress, Coronary Reperfusion and Secondary Prevention. Meet the Experts IV: STEMI Treatment. Oberlech, Austria
30.	April 2007	Thromboses and Urgences Coronaires. The Edmonton Experience. The WEST Trial. Paris, France
31.	June 2007	Pre-Hospital Reperfusion. American College of Cardiology Foundation. Washington, D.C., United States of America
32.	November 2007	American Heart Association. Heart Failure Predictors and Outcomes after Acute Myocardial Infarction in the Elderly. Orlando, Florida, United States of America
33.	May 2008	Boehringer Ingelheim Satellite Symposium. Acute Myocardial Infarction – Reperfusion Strategies in Real Life and their Potential Benefit for the Patient / Fibrinolysis or Primary PCI: Are we Living up to the Guidelines? Buenos Aires, Argentina
34.	October 2008	Strategic Reperfusion Early After Myocardial Infarction. Transcatheter Therapeutics. Washington, D.C., United States of America
35.	November 2010	Tailored antiplatelet therapy in ACS. 3rd Middle East Vascular Forum. Sharm AlShaikh, Egypt

36.	November 2010	Tailored anticoagulant therapy in ACS. 3rd Middle East Vascular Forum. Sharm AlShaikh, Egypt
37.	April 2011	ACC 2011 Canadian Wrap-Up. http://tv.clinicaltrialresults.org/play.php?submission_id=979. New Orleans, Louisiana, United States of America
38.	February 2014	Advances in Anti-Platelet Therapy and the Clinical Implications of Recent Trials. Saudi Heart Association Meeting Riyadh, KSA
39.	February 2014	Interventional Cardiology, Women in Innovations (SCAI), Chairperson. Saudi Heart Association Meeting Riyadh, KSA
40.	February 2014	Practical Implementation of STEMI Guidelines. Saudi Heart Association Meeting Riyadh, KSA
41.	February 2014	Implementation the Fibrinolysis Pharmaco-Invasive Strategy for STEMI patients when Primary PCI is not Practical. Saudi Heart Association Meeting Riyadh, KSA
42.	May 2014	Innovations in Cardiovascular Care: Tran-catheter Aortic Valve Implantation and From guidelines to practice: DAPT in ACS St Vincents Hospital, Darlinghurst, Australia
43.	May 2014	Advances in Antiplatelet Therapy and the Clinical Implications of Recent Trials Sydney, Australia
44.	September 2014	Didactic Symposia: Clinical Trial Design and Interpretation, Part 1. TCT Washington, DC, United States of America
45.	September 2014	Partnership Session: Montreal Live in Partnership with TCT: Clinical Update on Bioresorable Scaffold Technology and Structural Heart Procedures. TCT Washington, DC, United States of America
46.	September 2014	International Session: Management of Multivessel CAD (Presented by the Scottish Cardiac Society Working Group on Interventional Cardiology and the Canadian Association of Interventional Cardiology (CAIC-ACCI)). TCT Washington, DC, United States of America
47.	September 2014	Plenary Session XXX: Clinically Orientated Case-Based Tutorials #1: Complex Coronary Artery Disease. TCT Washington, DC, United States of America

49.	November 2014	Hot Table Sessions: Interaction of Atrial Fibrillation and Acute Coronary Syndromes Thrombosis Research Global Forum Berlin, Germany
50.	November 2015	Regional STEMI Systems in Rural Areas: Role of Lytics Regional Systems of Care: STEMI and Beyond, American Heart Association Orland, Flordia, United States of America
51.	November 2015	Impact on Clinical Outcomes of Randomization at Community Hospitals Versus Pre-hospital location in STEMI Patients: Insights from the STREAM Study Therapeutic and Diagnostic Challenges in CAD, American Heart Association Orland, Flordia, United States of America
52.	November 2015	Unraveling outcomes in medically managed patient with Acute Coronary Syndromes (ACS): the Alberta COntemporary Acute coronary syndrome Patients invasive Treatment Strategies (COAPT) Study. Therapeutic and Diagnostic Challenges in CAD, American Heart Association Orlando, Flordia, United States of America
53.	November 2016	What is the value of pre-hospital troponins? Invited presentation at the
	American Heart Associ	ation Meeting, New Orleans, Louisiana, United States.
54.	July 2017	PIONEER in Anticoagulation: 1st evidence of NOAC in Patients with Atrial
		PCI, Symposium at Asian Pacific Society of Cardiology Congress, Singapore
55.	July 2017	Practical use of NOAC in Multi-morbid Patient Conditions, Symposium at Asian
	Pacific Society of Cardi	ology Congress, Singapore
56.		
ited N	ational Scientific Presen	tation

Invit

1.	October 1995	Case Presentations: Ambulatory Blood Pressure. Western Canadian Internal Medicine Updated. Banff, Alberta, Canada
2.	May 1999	Pre-Hospital Nitroglycerin, Interphase 1999. Edmonton, Alberta, Canada
3.	May 1999	Pre-Hospital Thrombolysis, Interphase 1999. Edmonton, Alberta, Canada
4.	March 2001	New Era in Reperfusion. Thrombolysis in the New Millennium. Satellite Symposium in Conjunction with the Canadian Association of Emergency Physicians. Calgary, Alberta, Canada
5.	April 2001	Acute Coronary Syndromes. Regina Health District CME. Regina, Saskatchewan, Canada
6.	May 2001	Pre-Hospital Treatment of AMI. Medical Cyber Session. Canada
7.	May 2001	ECG Workshop. Issues and Controversies in Acute Cardiac Care. Whistler, British Columbia, Canada
8.	May 2001	IIb or Not IIb +/- Lytics. New Horizons in Acute St Elevation AMI. Issues and Controversies in Acute Cardiac Care.

		Page 54 of 66
		Whistler, British Columbia, Canada
9.	March 2002	New Horizons in Acute Myocardial Infarction: Equipping Opinion Leaders with the Best Contemporary Educational Tool. Alberta Cardiovascular Congress. Lake Louise, Alberta, Canada
10.	March 2002	How Should we Optimally Utilize Pre-Hospital Diagnosis, Treatment and Triage. New Concepts in Acute Coronary Syndromes: Beyond 2000 VIII, Canadian Cardiovascular Congress. Edmonton, Alberta, Canada
11.	February 2003	Atherosclerosis and Thrombosis, a Brief Review. ACS Consensus Forum. Program Chair. Victoria, British Columbia, Canada
12.	February 2003	Pre-Hospital Fibrinolysis vs. Primary PCI – Debate. The Tremblant Interventional Course. Mount Tremblant, Quebec, Canada
13.	March 2003	Symposium Chair and Presenter. Antiplatelet Therapy in High Risk ACS Patients – The ACC Lake Louise Meeting. Lake Louise, Alberta, Canada
14.	October 2003	Making Sense of the Data – Not another Kaplan Mieir Curve. Canadian Agatha Investigators Meeting. Calgary, Alberta, Canada
15.	February 2004	PCI for STEMI Patients According to Timing; At the PCI Centre, 2 Hours from the PCI Centre, Or 3 Hours from the PCI Centre. Tremblant Interventional Cardiology Course. Mount Tremblant, Quebec, Canada
16.	March 2004	Acute Coronary Syndromes - A Case-Based Workshop. The Canadian Cardiovascular Residents' Program; Annual Cardiovascular Conference. Lake Louise, Alberta, Canada
17.	March 2004	Pharmacological Approaches for Invasive Strategies in NSTEMI; Managing Patients with High-Risk NSTEMI in 2004: Sorting the Evidence. Scientific Symposium, Annual Cardiovascular Conference. Lake Louise, Alberta, Canada
18.	May 2004	Optimal AMI Systems: Optimal AMI Strategies. Niagara on the Lake. Niagara Falls, Ontario, Canada
19.	September 2004	Optimal Reperfusion Strategies in STEMI Patients: Implementing the Guidelines. Camrose, Alberta, Canada
20.	September 2004	Case-Based Workshop - STEMI. Rural Emergency Medicine Update. Jasper, Alberta, Canada
21.	September 2004	Optimal Management of STEMI. Rural Emergency Medicine Update.

Jasper, Alberta, Canada

Canadian Cardiovascular Society - Beyond 2000.

Reperfusion In-Waiting: Who is the Timekeeper and what is the Score?

22. October 2004

23. January 2005	Optimizing Reperfusion of STEMI. Why and Which Patients Delay in Seeking Help after Symptoms? JANUS VIII. Whistler, British Columbia, Canada
24. February 2005	PCI and Anticoagulation - Lovenox. Tremblant Interventional Cardiology Course. Mount Tremblant, Quebec, Canada
25. February 2005	Fibrinolysis with Mandated Co-Intervention (PCI). Tremblant Interventional Cardiology Course. Mount Tremblant, Quebec, Canada
26. March 2005	STEMI Case Study Workshop. New Frontiers in the Management of Acute Coronary Syndromes (ACS) Train-The-Trainer Meeting. Lake Louise, Alberta, Canada
27. March 2005	Regional Reperfusion Strategies for STEMI: Opportunities and Obstacles. Annual Cardiovascular Conference. Lake Louise, Alberta, Canada
28. April 2005	Acute Coronary Syndromes: NSTEMI and STEMI - A Research Update. University of Manitoba, Cardiology Division Grand Rounds. Winnipeg, Manitoba, Canada
29. May 2005	Pre-Hospital Fibrinolysis - The Future. Canadian Association of Emergency Physicians. Edmonton, Alberta, Canada
30. June 2005	Optimal Management of STEMI - A Systems Approach. Grand Rounds. Surrey, British Columbia, Canada
31. June 2005	Optimal Management of STEMI – A Systems Approach. Surrey, British Columbia, Canada
32. July 2005	STEMI 2005. WOHC Emergency Conference. Niagara Falls, Ontario, Canada
33. October 2005	Late Breaking Trials Update. CCS Symposium, Beyond 2000(XI). Montreal Quebec, Canada
34. January 2006	Time and Therapeutic Choices for Reperfusion: Reality Check 2006. JANUS IX. Whistler, British Columbia, Canada
35. February 2006	Optimizing Care of Acute Myocardial Infarction (STEMI): A System Based Approach Focusing on the Pre-Hospital Environment. Grand Rounds, St. John Regional Hospital. St. John, New Brunswick, Canada
36. February 2006	Mechanical Co-Intervention with Fibrinolysis. Tremblant International Cardiology Course. Mount Tremblant, Quebec, Canada
37. March 2006	WEST-ern Insights 22 nd Annual Cardiovascular Conference. Lake Louise, Alberta, Canada

38. September 2006	The Patient with Successful Lysis – New What? New Brunswick Heart Centre Cardiovascular Symposium. St. John, New Brunswick, Canada
39. September 2006	Integrated Approach to STEMI – "The First 24 Hours". New Brunswick Heart Centre Cardiovascular Symposium. St. John, New Brunswick, Canada
40. October 2006	Getting Started In Academic Medicine – The First Few Years. 5 th Annual Canadian Cardiovascular Trainee Day. Vancouver, British Columbia, Canada
41. October 2006	Time, Treatment And Triage: Introducing a Systems Approach to ACS Care. New Concepts In Acute Coronary Syndromes: Beyond 2000 (XII) Vancouver, British Columbia, Canada
42. February 2007	Facilitated PCI for STEMI. Tremblant Interventional Cardiology. Montreal, Quebec, Canada
43. March 2007	Pre-Hospital Screening and Critical Care Pathways for AMI. Annual Lake Louise Cardiovascular Conference. Lake Louise, Alberta, Canada
44. March 2007	Sanofi Aventis Management Options for ACS: Train the Trainer Meeting. Anticoagulation Therapy in STEMI: UFH and LMWH. Lake Louise, Alberta, Canada
45. March 2007	Imaging Methods to Provide Prognostic Information of Proven Value Regarding Future Risk of Heart Attack and Stroke. Annual Lake Louise Cardiovascular Conference. Lake Louise, Alberta, Canada
46. May 2007	Should all Patients with STEMI Should be Cathed? 12 th Annual Atlantic Canada Cardiovascular Conference. Halifax, Nova Scotia, Canada
47. June 2007	Heart Safe Presentation, Cardiac Sciences, Capital Health Authority. Heart-Safe Presentation. Edmonton, Alberta, Canada
48. June 2007	CAEP, Canadian Association of Emergency Physicians. Prehospital Thrombolysis. Victoria, British Columbia, Canada
49. June 2007	Sanofi Aventis and Bristol-Myers Squibb: Satellite Symposium, Optimizing the Management of your ACS Patient: A Case-Based Approach. The Role of the ER and Cath Lab in High-Risk NSTEMI Patients. Victoria, British Columbia, Canada
50. October 2007	Anticoagulation after Subcutaneous Enoxaparin is Time Sensitive in STEMI Patients Treated with TNK. Canadian Cardiovascular Congress. Quebec City, Quebec, Canada
51. October 2007	Heart Failure Predictors and Outcomes after Acute Myocardial Infarction in the Elderly. Canadian Cardiovascular Congress.

	Quebec City, Quebec, Canada
52. October 2007	Regional Systems Approach to ST-Elevation Myocardial Infarction. Moving Upstream to the First Point of Care Strategies for Diagnosis, Triage, and Treatment. Canadian Cardiovascular Congress. Quebec City, Quebec, Canada
53. October 2007	Cardiovascular Risk Stratification In Diabetes Patients with Renal Insufficiency Being Assessed for Renal Transplantation. Canadian Cardiovascular Congress. Quebec City, Quebec, Canada
54. October 2007	How to Best Estimate Cardiovascular Risk in Primary Prevention. Canadian Cardiovascular Congress. Quebec City, Quebec, Canada
55. October 2007	Coronary Angiography and Revascularization are Paradoxically Directed towards Lower Risk Non-ST Elevation Acute Coronary Syndrome Patients: Contemporary Insights from Grace and Grace 2 in Canada. Canadian Cardiovascular Congress. Quebec City, Quebec, Canada
56. October 2007	Validation of the Multinational, Registry-Derived Grace Risk Score in a Broad Spectrum of Acute Coronary Syndrome Patients in Canada. Canadian Cardiovascular Congress. Quebec City, Quebec, Canada
57. January 2008	Update of Pharmacology in MI, in PCI, and Before PCI. Mount Tremblant, Quebec, Canada
58. February 2008	Narcissism and the Refusal of Change. Fifth Annual Quality Lectureship. Edmonton, Alberta, Canada
59. February 2008	Provincial Approach to STEMI. 11 th Annual Cardiovascular Roundtable. Jasper, Alberta, Canada
60. February 2008	Update on Primary Prevention. 11 th Annual Cardiovascular Roundtable. Jasper, Alberta, Canada
61. March 2008	Development of Systems of are for STEMI. Alberta Cardiovascular Congress. Lake Louise, Alberta, Canada
62. March 2008	Knowledge Translation Workshop – Managing Workshop. ACC Lake Louise. Lake Louise, Alberta, Canada
63. March 2008	Satellite Symposium, New Development In ACS Management: Where Do We Stand Today? Seamless Integration of Anticoagulation Therapy throughout the Spectrum of CAD. ACC Lake Louise. Lake Louise, Alberta, Canada
64. March 2008	Satellite Symposium, New Development In ACS Management: Where Do We Stand Today? The Canadian Care Gaps In ACS Management: Is It Widening? ACC Lake Louise.

Lake Louise, Alberta, Canada

65. June 2008	Lessons Learned That Enhance the Process of Care for Patients with Acute Coronary Syndromes. Mazankowski Alberta Heart Institute Inaugural Congress. Edmonton, Alberta, Canada
66. June 2008	Chair: Astra Zeneca Satellite Symposium. Mazankowski Alberta Heart Institute Inaugural Congress, University Of Alberta. Edmonton, Alberta, Canada
67. June 2008	EOIC Current Issues in Cardiology Debate Symposium. Mazankowski Alberta Heart Institute Inaugural Congress. Edmonton, Alberta, Canada
68. October 2008	Optimal Medical Therapy Following Primary PCI. Canadian Cardiovascular Congress. Toronto, Ontario, Canada
69. October 2008	NSTEMI – Determining the Need and Timing of Cardiac Catheterization. Canadian Cardiovascular Congress. Toronto, Ontario, Canada
70. October 2008	Canadian Perspectives in the Management of Non-ST Elevation Acute Coronary Syndromes. Canadian Cardiovascular Congress. Toronto, Ontario, Canada
71. October 2008	New Concepts in Acute Coronary Syndromes: Beyond 2000 XIV Major Satellite Symposium. STEMI Reperfusion at the Crossroads: The Right Path(s) For Canada. Canadian Cardiovascular Congress. Toronto, Ontario, Canada
72. October 2008	Workshop Academics VS. Private Practice: Pros and Cons. 7 th Annual Cardiovascular Trainee Day, Canadian Cardiovascular Congress. Toronto, Ontario, Canada
73. October 2010	Workshop Pan-Canadian Cardiac Data Definition and Quality Indicators. Canadian Cardiovascular Congress. Toronto, Ontario, Canada
74. October 2010	Spontaneous Coronary Dissection: An Underestimated Cause of ACS: Clinical Appraisal, Intervention, and Follow Up. Workshop. Canadian Cardiovascular Congress. Toronto, Ontario, Canada
75. October 2010	Implementing Systems to Deliver State of the Art Care in ACS Patients Across Regional, National, and International Boundaries. Symposium. Canadian Cardiovascular Congress. Toronto, Ontario, Canada
76. October 2010	The Evolution of ACS: A Town Hall Discussion Focusing on Practical Considerations in Antiplatelet Therapy. Oral. Canadian Cardiovascular Congress. Canadian Cardiovascular Congress. Toronto, Ontario, Canada
77. October 2010	How to Apply the Canadian Cardiovascular Society Anti-Platelet Guidelines in

Clinical Practice? Work Shop. Canadian Cardiovascular Congress. Canadian

Cardiovascular Congress.

Toronto,	Ontario,	Canada

78. October 2010	Re-Assessing Reperfusion Choices for STEMI: A Canadian Perspective. Accredited Symposia. Canadian Cardiovascular Congress. Canadian Cardiovascular Congress. Toronto, Ontario, Canada
79. October 2011	Effects of Timely Practitioner Feedback on Time to Treatment in an Early STEMI Reperfusion Program In Northern Alberta. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
80. October 2011	Frequency of Inappropriate Catheterization Laboratory Activation within Vital Heart Response: A Regional STEMI Reperfusion Program with Pre-Hospital Activation. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
81. October 2011	Beyond 2000. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
82. October 2011	ACS 360: The Canadian Perspective – The View from Inside CCC. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
83. October 2011	New Concepts in Acute Coronary Syndromes: Beyond 2000 (XVI) - Interactive Panel – System Approach to Acute Coronary Disease. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
84. October 2011	Frequency of Inappropriate Catheterization Laboratory Activation within Vital Heart Response: A Regional STEMI Reperfusion Program with Pre-Hospital Activation. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
85. October 2011	Peripheral Chest Pain Program. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
86. October 2011	Is Waiting For A Coronary Angiogram on the Weekend Safe for NSTEMI Patients? Insights from the Canadian Global Registry of Acute Coronary Events. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
87. October 2011	Treatment and Outcomes of Acute Coronary Syndromes in Relation to Burden of Pre-Existing Vascular Disease. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
88. January2012	Evidence based approach to revascularization in multi-vessel coronary artery disease after COURAGE, SYNTAX, FREEDOM and FAME Vancouver, British Columbia, Canada
89. March 2012	ACS Update: Incorporating Contemporary Trials Into Clinical Practice Victoria, British Columbia, Canada
90. September 2012	The 1 st Hour Following a STEMI: Urban vs. Rural Divide St. John, New Brunswick, Canada

91. October 2012	ACS 360: The Canadian Perspective – The View from Inside CCC. Canadian Cardiovascular Congress. Toronto, Ontario, Canada
92. October 2013	The Need for Rescue PCI after Failed Fibrinolysis: What, When and Why?. Beyond 2013 Montreal, Quebec, Canada
93. October 2013	Time and Transfer and Treatment in STEMI. Vascular 2013 Montreal, Quebec, Canada
94. October 2013	Time and Transfer and Treatment in STEMI. Vascular 2013 Montreal, Quebec, Canada
95. October 2013	Impact of Reperfusion Strategy on Aborted Myocardial Infarction: Insights from a Large Canadian St-Elevation Myocardial Infarction Clinical Registry. Vascular 2013 Montreal, Quebec, Canada
96. October 2013	PROACT. Vascular 2013 Montreal, Quebec, Canada
97. October 2013	Translating Clinical Trials to Clinical Care Algorithms. Expert Opinions: Advances in Cardiology. Vascular 2013 Montreal, Quebec, Canada
98. October 2013	Dual Antiplatelet Patterns In Patients With Myocardial Infarction Undergoing Percutaneous Coronary Intervention: Insights From The Prospective Canadian Observational Antiplatelet Study (COAPT). Vascular 2013 Montreal, Quebec, Canada
99. October 2013	ACS Reflective. Vascular 2013 Montreal, Quebec, Canada
100.October 2013	TAVI Case presentation; TAVI Valve in Valve. Montreal, Quebec, Canada
101.October 2014	Oral antithrombotic therapy in the secondary prevention of ACS patients: Balancing risk and reward Vancouver, British Columbia, Canada
102.October 2014	Atrial Fibrillation in STEMI Patients, Contemporary Management and One Year Outcomes. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
103.October 2014	12-Lead ECG Evolution from Pre-Hospital to Hospital Arrival in Patients with Symptoms Suspicious for Acute CV Disease: PRACT 3 ECG Study. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
104.October 2014	Patterns of ADP Receptor Inhibitor Use During The Index Hospitalization In Patients With Myocardial Infarction Undergoing Percutaneous Coronary Intervention: Insights from the Canadian Observational Antiplatelet Study (COAPT). Canadian Cardiovascular Congress.

Vancouver, British Columbia, Canada

105.October 2014	Bleeding and Ischemic Events in Canadian Patients with Myocardial Infarction Undergoing Percutaneous Coronary Intervention: Insights from the Canadian Observational Antiplatelet Study (COAPT) at one year. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
106.October 2014	Number of Traditional Cardiovascular Risk Factors and Management and Outcome in Acute Coronary Syndrome. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
107.October 2014	Year-in-Review, Optimal Revascularization a) STEMI/NSTEMI – What to do with the non-Culprit Artery. B) Stable CAD. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
108.October 2014	Antiplatelet therapy: What the guidelines are not telling us Innovations in Interventional Cardiology I2C Summit. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
109.October 2014	Optimal Revascularization in STEMI/NSTEMI – What to do with the non-culprit artery. Year In Review For The Clinical Cardiologist – ACS. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
110.October 2014	STEMI Care 2014 at the Crossroads: Taking the Right Road. New Concepts in Acute Coronary Syndromes: Beyond 2000 (XX). Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
111.October 2014	Managing Spontaneous Coronary Artery Dissection (SCAD). Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
112.October 2015	Evaluating the use of Administrative Comorbidity Definitions in a Registry of STEMI Patients. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
113.October 2015	Post STEMI Survey Of Patient Perceptions And Behaviors Comparing Canadians and Saudi Patients. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
114.October 2015	Adequacy Of Anticoagulation With Enoxaparin Or Unfractionated Heparin: The Canada Primary PCI Anticoagulant Stream Substudy. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
115.October 2015	Halfdose Tenecteplase Compared To Conventional ST-segment Myocardial Infarction (STEMI) Reperfusion Strategies In The Elderly: An Observational Analysis. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada
116.October 2015	Long-Term Outcomes With Revascularization In Patients With High-Risk Coronary Anatomy And Stable Ischemic Heart Disease: Results From The Approach Registry. Canadian Cardiovascular Congress. Vancouver, British Columbia, Canada

117.October 2015 Quality Of Life In Diabetics With Multi-Vessel Coronary Disease: Real-World

Experience Comparing Percutaneous Coronary Intervention And Coronary

Artery Bypass Grafting Surgery. Canadian Cardiovascular Congress.

Vancouver, British Columbia, Canada

118.October 2015 Meta-Analysis Of Intracoronary Thrombolytic As An Adjunct To Primary

Percutaneous Coronary Intervention In St-Segment Elevation Myocardial

Canadian Association of Critical Care Nurses. What's New in Cardiovascular

Infarction. Canadian Cardiovascular Congress.

Vancouver, British Columbia, Canada

Invited Local/Regional and CME Presentation

13. November 1999

ited Local/Regional and CME Presentation		
1.	October 1995	Emergency Room Approaches to Chest Pain. St. Paul's Hospital Review. Saskatoon, Saskatchewan, Canada
2.	May 1996	University of Saskatchewan Internal Medicine Residents Retreat. Organizer. Regina, Saskatchewan, Canada
3.	May 1997	Utilities of the 15 Lead Electrocardiogram, Cardiovascular CME. Edmonton, Alberta, Canada
4.	September 1997	Coronary Artery Disease Overview, Northern Alberta Institute of Technology. Edmonton, Alberta, Canada
5.	April 1998	Management of Cardiovascular Diseases. Jasper, Alberta, Canada
6.	April 1998	Electrocardiographic Interpretation, Family Practice Residents at the Misericordia Hospital. Edmonton, Alberta, Canada
7.	May 1998	Contemporary Management of Lipid Abnormalities. St. Paul, Alberta, Canada
8.	June 1998	Contemporary Management of Lipid Abnormalities. Baker Clinic. Edmonton, Alberta, Canada
9.	September 1998	Contemporary Management of Lipid Abnormalities. St. Alberta, Alberta, Canada
10.	October 1998	Management of Lipid Disorders: Case Study Workshop. Westlock, Alberta, Canada
11.	May 1999	Frontiers in Thrombolysis Teach The Teachers, Nurses Update. Jasper, Alberta, Canada
12.	November 1999	Frontiers in Thrombolysis: A Review of the Assent II Trial. RAH, Grand Rounds. Edmonton, Alberta, Canada

Care Of the Acute Ischemia Patient.

Edmonton, Alberta, Canada

14. September 2000	Chest Pain Centers. The Future of Acute Coronary Syndromes in Canada. Cardiology Divisional Rounds Edmonton, Alberta, Canada
15. September 2000	Frontiers in Thrombolysis – Pre-Hospital Fibrinolysis. Rural Emergency Medicine Update V (REMU V). Jasper, Alberta, Canada
16. September 2000	Thrombolytic Protocols – Today and Tomorrow, Rural Emergency Medicine Update V (REMU V). Jasper, Alberta, Canada
17. September 2000	The Indications for Coronary Angiography and Percutaneous Coronary Intervention. Cardiac Rehabilitation Course, Department of Physical Therapy. Edmonton, Alberta, Canada
18. November 2000	Myocardial Fatigue Syndrome: The Cardiovascular Response to Prolonged Strenuous Exercise. University of Saskatchewan, Division of Cardiology, Grand Rounds. Regina, Saskatchewan, Canada
19. February 2001	Pre-Hospital Fibrinolysis. Rural Emergency Medicine Update VI. Jasper, Alberta, Canada
20. February 2001	Non-Invasive Cardiac Assessment. Department of Medicine Academic Half Day Edmonton, Alberta, Canada
21. April 2001	Thrombolysis in the New Millennium. Spring in Vancouver 6th Annual Emergency Medicine Conference. Vancouver, British Columbia, Canada
22. May 2001	New Horizons in Acute Myocardial Infarction. Edmonton Emergency Physicians. Emergency Medicine Conference. Edmonton, Alberta, Canada
23. June 2001	State of the Art Management of Acute ST Elevation Myocardial Infarction. Cardiology Update for General Practitioners and Internists, University Of Alberta. Edmonton, Alberta, Canada
24. February 2002	Pre-Hospital Fibrinolysis in 2002. Montreal Heart Institute Cardiology Grand Rounds. Montreal, Quebec, Canada
25. March 2002	Risk Stratification of Diabetic Patients. University Of Alberta Cardiology Division Rounds. Edmonton, Alberta, Canada
26. April 2002	Cardiovascular Risk Stratification and the Impact of a Chest Pain Program. Lethbridge, Alberta, Canada
27. June 2002	Pre-Hospital Fibrinolysis: Past, Present and Future. University of Alberta Cardiology Update. Edmonton, Alberta, Canada

28. October 2002	New Horizons in Acute Myocardial Infarction. University of Alberta Cardiology Division Rounds. Edmonton, Alberta, Canada
29. April 2002	Acute Coronary Syndromes. 8th Annual Update in Internal Medicine for Primary Care Physicians. Edmonton, Alberta, Canada
30. January 2003	Antithrombotic Management of Cardiovascular Disease. 7 th Biennial Anticoagulation and Thrombosis Update. Edmonton, AB, Canada
31. February 2003	Management of Acute Myocardial Infarction in 2003. Rural Emergency Medicine Update VIII. Jasper, Alberta, Canada
32. June 2003	A Dissection of the Impact of Assent-3 Plus In Alberta. Early Treatment Of AMI in Alberta Meeting Edmonton, Alberta, Canada
33. June 2003	The Optimal Mode of Reperfusion in 2003 and Beyond – Primary PCI. University of Alberta Cardiology Update. Edmonton, Alberta, Canada
34. September 2003	A Research Update – Cardiac Risk Stratification in High Risk Patient Populations. The Alberta Cardiovascular Society Annual Meeting. Kananaskis, Alberta, Canada
35. January 2004	Early Treatment of AMI - Bringing Pre-Hospital Thrombolysis to the Community. Drayton Valley, Alberta, Canada
36. March 2004	Pharmacological Approaches for Invasive Strategies in NSTEMI. 20 th Annual Cardiovascular Conference. Lake Louise, Alberta, Canada
37. March 2004	Managing Patients with High-Risk Non-St Segment Elevation ACS in 2004: Sorting the Evidence. 20th Annual Cardiovascular Conference. Lake Louise, Alberta, Canada
38. April 2004	Workshop - Hospital Medicine 1: Acute Coronary Syndromes. 10 th Anniversary of the Internal Medicine for Primary Care Physicians. Edmonton, Alberta, Canada
39. June 2004	What is the Best Therapy for Acute MI? 4 th Annual Cardiology Update for General Practitioners and Internists. Edmonton, Alberta, Canada
40. June 2004	A Simple Risk Score to Facilitate Clinical Assessment and Triage of Unselected Patients Presenting to the Emergency Department with Non-Traumatic Chest Pain (Abstract Presentation). 8 th Cardiac Sciences Research Day. Edmonton, Alberta, Canada
41. October 2004	Vital Heart Response - A Regional Approach to STEMI. Kea Academic Half Day. Edmonton, Alberta, Canada

42. February 2005	Vital Heart Response – A Regional Reperfusion Program. 8 th Annual Northern Alberta Cardiovascular Roundtable. Jasper, Alberta, Canada
43. May 2005	Resolved that Coronary Angiography is Necessary and Sufficient for the Management of ACS in Acute Coronary Care Units. Cardiac Intensive Care Unit Symposium. Calgary, Alberta, Canada
44. June 2005	The Best Therapy for Acute Myocardial Infarction - Location, is the Answer Dependent on Location? 5 th Annual Cardiology Update for GPs and Internists. Edmonton, Alberta, Canada
45. September 2005	Vital Heart and Rural Centers. 10 th Annual Rural Medicine Update. Jasper, Alberta, Canada
46. February 2006	STEMI Update. 9 th Annual Northern Alberta Cardiovascular Roundtable. Jasper, Alberta, Canada
47. April 2006	Workshop: Acute Coronary Syndromes. 12 th Annual Internal Medicine and Radiology for Primary Care Physicians. Edmonton, Alberta, Canada
48. May 2006	Update On use of Anti-Platelet Agents in Broad Spectrum CAD Patients. Cardiology Grand Rounds, Royal Alexandra Hospital Edmonton, Alberta, Canada
49. May 2006	Atherothrombosis Update Presentation (REACH/CHARISMA). 2 nd Annual Acute Coronary Syndrome Update Edmonton, Alberta, Canada
50. May 2006	Optimal Management Of MI: A 'WEST'ern Perspective. 6 th Annual Cardiology Update for General Practitioners and Internists. Edmonton, Alberta, Canada
51. May 2006	Translating Evidence to Action with a Pre-Hospital Focus. Grand Rounds, Queen Elizabeth II Hospital Grande Prairie, Alberta, Canada
52. June 2006	Acute Coronary Syndrome Update: What you Need to Know to Manage Your Patients from Admission to Discharge. Grand Rounds, Northern Lights Regional Hospital Fort McMurray, Alberta, Canada
53. May 2007	New Horizon in Acute Myocardial Infarction. Cardiology Rounds. Edmonton, Alberta, Canada
54. June 2007	Cardiac Sciences Leader Summit. Capital Health Edmonton, Alberta, Canada
55. June 2008	The Heart of the Matter, Two Perspectives, 1 Patients. Astra Zeneca Dinner and Discussion Edmonton, Alberta, Canada

56. October 2008	Update On the Medical Management of Acute Coronary Syndrome. Grand Rounds, Sturgeon Hospital St. Albert, Alberta, Canada
57. January 2008	Cardiovascular Assessment Of Diabetic Patients Undergoing Workup for Renal Transplantation. Cardiology Rounds. Edmonton, Alberta, Canada
58. January 2008	Time, Triage, and Treatment of Optimal Management STEMI in 2008. Cardiology Rounds. Edmonton, Alberta, Canada
59. October 2008	Update on the Medical Management of Acute Coronary Syndrome. Sturgeon Hospital Rounds. Edmonton, Alberta, Canada
60. April 2011	Knowledge Translation Workshop Acute Coronary Syndromes. 17 th Annual Internal Medicine for Primary Care Physicians Edmonton, Alberta, Canada
61. July 2011	PROACT EMS Educator Training Edmonton, Alberta, Canada
62. September 2011	AHS EMS Clinical Symposium 2011 Bernard Snell Hall PROACT Trial / VHR Review Edmonton, Alberta, Canada
63. September 2011	AHS EMS Clinical Symposium 2011 Bernard Snell Hall PROACT Trial / VHR Review Edmonton, Alberta, Canada
64. October 2011	AHS EMS Clinical Symposium 2011 Bernard Snell Hall PROACT Trial / VHR Review Edmonton, Alberta, Canada
65. November 2011	AHS EMS Clinical Symposium 2011 Bernard Snell Hall PROACT Trial / VHR Review Edmonton, Alberta, Canada
66. September 2012	New Antiplatelet Agents / The Thrombosis Interest Group of Canada (TIGC) Edmonton, Alberta, Canada