

## **Dr. Carlos A. Morillo**

Currently Chief Division of Cardiology Department of Cardiac Sciences, University of Calgary, Libin Cardiovascular Institute, Zone Head Cardiology Calgary and Southwest Alberta Region. Dr. Morillo is also a Professor in the Departments of Medicine and Cardiac Sciences at the Cummings School of Medicine, University of Calgary. He is a Cardiologist and Electrophysiologist and also holds an Adjunct Full Professor position in the Department of Medicine, Cardiology Division at McMaster University. Dr. Morillo was the Director of the Arrhythmia & Pacing Services at Hamilton Health Sciences for 10 years he also initiated the Cardiac Electrophysiology and Autonomic Physiology Fellowship at McMaster University until August 2016. This program trained over 40 Cardiologists from 12 different countries and 4 continents. Dr. Morillo founded and was the Director of the Hamilton Atrial Fibrillation Reference Centre, and Syncope & Autonomic Disorder Unit at McMaster University/HHSC. Dr. Morillo received his MD and Internal Medicine and Cardiology certifications from the Pontificia Universidad Javeriana in Bogota, Colombia, and the Universidad Militar Nueva Granada respectively. In 1989 he first migrated to Canada and trained as a Cardiac electrophysiologist at the University of Western Ontario in London, Ontario (1989-1993). He was awarded a Heart & Stroke Foundation of Canada Research Fellowship and performed a post doctoral fellowship in Cardiovascular Autonomic Physiology, under the mentorship of Professor Dwain Eckberg (1993-1995). He joined the Medical College of Virginia as a junior staff at the Medical College of Virginia until 1996 when he accepted the position of Chairman of Cardiology and Cardiovascular Sciences at the Fundacion Cardiovascular del Oriente Colombiano that was affiliated with the Universidad Industrial de Santander, back in Colombia. Dr. Morillo was repatriated by a program funded by COLCIENCIAS (the Colombian version of NIH, CIHR). The Heart Institute was located in Bucaramanga, the 5<sup>th</sup> largest city in Colombia with a population of 1 million but this institute provided coverage for all cardiovascular disorders for about 8 million people, the entire North-Eastern region of Colombia. During his tenure as Chairman of the Cardiology and Cardiovascular Sciences department he expanded the Cardiology Division from 12 to 40 Cardiologists, I recruited several young Cardiologists from other countries and Colombians that were training abroad mainly in Europe and North America. The heart Institute was a stand alone 12 story building with 4 cath-labs, 2 EP labs, 5 CV surgery OR suites, 10 echocardiography suites a large outpatient, cardiac prevention, cardiac rehab, and Acute Chest Pain clinics. I also created the CV Research Institute and a Clinical Trial division that was and remains being very successful. During my tenure as Scientific Director Dr. Morillo spearheaded the ISO-9001 certification process and this institute was among the first in Latin America to receive this certification. As the Scientific Director he propelled a program in Pediatric Cardiology and Pediatric cardiovascular Surgery, this was direly needed in the region. This was funded both by the Colombian and Swedish Governments and a knowledge translation and capacity building project was implemented by bringing 2 of the top Pediatric CV Surgeons from the University of Goteborg in Sweden as well as their head perfusionist and CV Pediatric ICU/Anesthesiologist. This group has the lowest surgical mortality in complex congenital CV surgery in the world. This was a highly successful program and today performs well over 500 pediatric CV surgeries with the lowest mortality in Latin America with young patients being referred from all over the country and other neighbor countries. In this post he also achieved a high academic standard for the Heart Institute during 5 years in a row receiving grant funding from both national and international agencies as well as the highest research awards from both the National Academy of Medicine and the Colombian Cardiovascular Society for our research in Chagas Disease, Cardiovascular Prevention and Clinical Trials. Dr. Morillo also held continued funding from Colciencias for about 1.5 million USD a year for the different research projects that he continues to participate in In 2002, Dr. Morillo migrated to McMaster University and joined the Faculty at the rank of Full Professor. Dr. Morillo helped the Arrhythmia Service grow into one of the largest programs in Canada and spearheaded the Fellowship program and since 2002 trained 40 Fellows from all around the world. Dr. Morillo started the AF ablation program, the Syncope and Autonomic Dysfunction Unit, and more recently the Left atrial appendage occlusion program currently being the second largest in the country. During this period he

has also been an active member of the Executive Committee of the Cardiology Division and a member of the Advisory Board Committee for the Cardiology Division at McMaster University. Dr. Morillo has published 285 peer-reviewed articles, in high impact Journals like NEJM, Circulation, JACC, EJC, etc. He holds grants and funding from CIHR, TDR/WHO and industry and is part of the National team that successfully was awarded an NCE grant in December of last year. Dr. Morillo conducted the largest clinical trial ever performed in Chagas disease BENEFIT that was published in NEJM last year. And also founded and Chaired the McMaster University Cardiology Update Annual Symposium, that has been successfully ongoing for 6 years. Dr. Morillo also has ample experience with specialty and subspecialty Societies, he founded the Colombian Heart Foundation, and was a founding member of the Canadian Heart Rhythm Society and was one of the founding executive board members. He was also the President of the Latin American Electrophysiology and Pacing Society, and served as Vice-President of the Inter-American Cardiology Society until 2015, he is the Heart Rhythm Society Ambassador for Latin America and a Member of the Scientific Meeting Planning Committee for the Heart Rhythm Society. In 2010, he was selected as one of the 10 most influential Hispanic-Canadians.

## 10 Most Important Publications

### I have Authored or Co-Authored 280 Manuscripts, 36 Book Chapters & 360 Abstracts

1. **Morillo CA**, Marin-Neto JA, Avezum A, Sosa-Estani S, Rassi A Jr, Rosas F, Villena E, Quiroz R, Bonilla R, Britto C, Guhl F, Velazquez E, Bonilla L, Meeks B, Rao-Melacini P, Pogue J, Mattos A, Lazdins J, Rassi A, Connolly SJ, Yusuf S; BENEFIT Investigators. Randomized Trial of Benznidazole for Chronic Chagas' Cardiomyopathy. *N Engl J Med*. 2015 Sep 1. [Epub ahead of print].
2. Sheldon RS, Grubb BP 2nd, Olshansky B, Shen WK, Calkins H, Brignole M, Raj SR, Krahn AD, **Morillo CA**, Stewart JM, Sutton R, Sandroni P, Friday KJ, Hachul DT, Cohen MI, Lau DH, Mayuga KA, Moak JP, Sandhu RK, Kanjwal K. 2015 heart rhythm society expert consensus statement on the diagnosis and treatment of postural tachycardia syndrome, inappropriate sinus tachycardia, and vasovagal syncope. *Heart Rhythm*. 2015 Jun;12(6):e41-63. doi: 10.1016/j.hrthm.2015.03.029. Epub 2015 May 14.
3. Verma A, Jiang CY, Betts TR, Chen J, Deisenhofer I, Mantovan R, Macle L, **Morillo CA**, Haverkamp W, Weerasooriya R, Albenque JP, Nardi S, Menardi E, Novak P, Sanders P; STAR AF II Investigators. Approaches to catheter ablation for persistent atrial fibrillation. *N Engl J Med*. 2015 May 7;372(19):1812-22. doi: 10.1056/NEJMoa1408288.
4. Schulman S, Healey JS, Douketis JD, Delaney J, **Morillo CA**. Reduced-dose warfarin or interrupted warfarin with heparin bridging for pacemaker or defibrillator implantation: A randomized trial. *Thromb Res*. 2014 Aug 1. pii: S0049-3848(14)00405-8. doi: 10.1016/j.thromres.2014.07.028. [Epub ahead of print].
5. Sanna T, Diener HC, Passman RS, Di Lazzaro V, Bernstein RA, **Morillo CA**, Rymer MM, Thijs V, Rogers T, Beckers F, Lindborg K, Brachmann J; CRYSTAL AF Investigators. Cryptogenic stroke and underlying atrial fibrillation. *N Engl J Med*. 2014 Jun 26;370(26):2478-86. doi: 10.1056/NEJMoa1313600.
6. Brambatti M, Connolly SJ, Gold MR, **Morillo CA**, Capucci A, Muto C, Lau C, Van Gelder IC, Hohnloser SH, Carlson M, Fain E, Nakamya J, Mairesse GH, Halytska M, Deng WQ, Israel CW, Healey JS; on behalf of the ASSERT Investigators. Temporal Relationship between Subclinical Atrial Fibrillation and Embolic Events. *Circulation*. 2014 Mar 14. [Epub ahead of print].
7. **Morillo CA**, Verma A, Connolly SJ, Kuck KH, Nair GM, Champagne J, Sterns LD, Beresh H, Healey JS, Natale A; RAAFT-2 Investigators. Radiofrequency ablation vs antiarrhythmic drugs as first-line treatment of paroxysmal atrial fibrillation (RAAFT-2): a randomized trial. *JAMA*. 2014 Feb 19;311(7):692-700. doi: 10.1001/jama.2014.467.
8. Connolly SJ, Sheldon R, Thorpe KE, Roberts RS, Ellenbogen K, Wilkoff BL, **Morillo CA**, Gent M, on behalf of the VPS II investigators. The second vasovagal pacemaker study (VPS II): A randomized double-blind randomized controlled trial of pacemaker therapy for the prevention of syncope in patients with vasovagal syncope. *JAMA* 2003;289: 2224-2229.
9. **Morillo CA**, Eckberg DL, Ellenbogen KA, Beightol L, Hoag JB, Tahvanainen KUO, Kuusela TA, Diedrich AM. Vagal and sympathetic mechanisms in patients with orthostatic vasovagal syncope. *Circulation* 1997;96:2509-2513.
10. **Morillo CA**, Klein GJ, Jones DL, Guiraudon CM. Chronic rapid atrial pacing: Structural, functional and electrophysiologic characteristics of a new model of sustained atrial fibrillation. *Circulation* 1995;91:1588-1595.