

UBC Cardiology Research News

Reporting October – December 2017

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Message from Research Director

Dear Colleagues:

It has been another banner quarter of research activity for the extended family of Cardiologists across the province. Our awards and distinctions are on a national and international level and the CIHR award for Dr. Krahn is a major achievement, particularly in the current funding climate.

Within the office we have undertaken diverse initiatives to identify all research support personnel and, in parallel, the key people within UBC who need to interact with them and their investigators. We hope to create a stronger and more effective relationship with the UBC Department of Medicine so that the processes of budgeting and budget management, ethics approval, human resource issues and all other related, research grant activities can be taught and executed more effectively. While we have not yet undertaken a reorganization of the research infrastructure for the Division, we are continuing to take the necessary steps with Human Resources to allow us to proceed effectively with this strategic initiative. We have faltered a bit in the timelines for this but continue to move the issue forward as best possible.

Based on letters of intent, we anticipate a new and interesting crop of CAPP Pilot Project proposals for the July 1 funding cycle.

I would like to take this opportunity to acknowledge the tireless mentorship and support provided by Dr. John Cairns to the entire academic enterprise, including all the Research initiatives within the Division. His absence will be sorely missed and our hearts and thoughts go out to him, his wife and family on a daily basis.

I remain extremely proud of the sustained academic focus and productivity of the group.

Best wishes for continued success.

G. B. John Mancini,
Director of Research, UBC Division of Cardiology

Awards & Distinctions

Gin, Kenneth

- Elected Fellow of the Canadian Cardiovascular Society (FCCS), October 2017

Roston, Thomas

- Winner of the Bayer Resident Vascular Award 2017. Congratulations to Thomas and his supervisors Drs. Krahn and Laksman

Saw, Jacqueline

- Announced as one of 2017 Clinical Trials Leaders and Champions for her research on the SCAD Registry, and LAA Closure Registry, at the TCT 2017 in Denver, CO, USA



Webb, John

- Selected by the UBC Faculty of Medicine Research Council as the recipient of the 2017 Distinguished Researcher Award in the Clinical Science Category

Grants Awarded

McKinney, James

- "The use of prescribed detraining to decrease atrial fibrillation burden and symptoms in athletes". UBC Division of Cardiology Academic Practice Plan Pilot Project Completion – November 2017

Krahn, Andrew

- "Risk predication of sudden death in arrhythmogenic right ventricular cardiomyopathy: The Canadian ARVC Registry". CIHR 2017

Invited Presentations

Grewal, Jasmine

- Pulmonary Hypertension in the ACHD Population, Fraser Valley Cardiology Journal Club, UBC, November 2017
- What's new in Pregnancy and Heart Disease? Province-Wide Obstetrics and Gynecology Grand Rounds, October 2017
- Women in Cardiovascular Evening. CCC, Vancouver, BC, October 2017
- Controversies in Transposition of the Great Arteries. CCC, Vancouver, BC, October 2017

Humphries, Karin

- Update on Policies in Research Related to Women and Heart Disease. Heart & Stroke Development Summit, November 23, 2017, Webinar, Vancouver BC.

Krahn, Andrew

- Key Speaker/Session Name: Getting Published: From Manuscripts Writing to Peer Reviews. CCC October 22, 2017
- Key Speaker - CCS/ESC Joint Symposium ICD and Sudden Death. CCC October 22, 2017
- Complex Cases in Competitive Athletes. Title: Normal QTc with lack of adaption during exercise. Venice Arrhythmia, October 25, 2017
- Syncope in Athletes and Pseudosyncope. Title: Genetics and epidemiology of exercise relate... Venice Arrhythmia, October 25, 2017
- AF IN INHERITED CARDIAC CHANNELOPATHIES. Venice Arrhythmia, October 25, 2017

Saw, Jacqueline

- Amulet/ACP contemporary data: Amulet Investigators Meeting Vancouver (Oct2017)
- All patients should undergo emergent coronary angiogram post-arrest: CCC Vancouver (Oct2017)
- Breaking the glass ceiling by breaking in (panel): CCC Vancouver (Oct2017)
- SCAD case presentation: CCC Vancouver (Oct2017)
- TAVR Innovation and 3D-Printing (discussant): TCT Denver (Oct2017)
- Facebook and Twitter for Trial Recruitment: SCAD Case Example: TCT Denver (Oct2017)
- An Interesting Spontaneous Coronary Dissection Visualized by OCT: TCT Denver (Oct2017)
- Imaging in LAA Closure (discussant): TCT Denver (Oct2017)
- TEE Guidance in LAAC: Standard Measurements and Advanced Tips and Tricks: TCT (Oct2017)
- AF Stroke Reduction: Strategies to Address Disparities in Patient Care (Chair): TCT (Oct2017)
- Disparities in Care for Stroke Risk Reduction in Minority Patients: TCT Denver (Oct2017)
- Practical Advice on Effective Ways to Discuss Treatment Options With Women: TCT (Oct2017)
- Recognition, Diagnosis, and Management of SCAD: TCT Denver (Oct2017)
- Trans-septal Puncture for LAA Closure Using TEE Guidance: TCT Denver (Oct2017)
- Acute Coronary Syndromes and Vulnerable Plaques (discussant): TCT Denver (Nov2017)
- Young women in cardiac rehabilitation: meeting their unique needs: AHA Anaheim (Nov2017)
- SCAD evaluation and treatment: AHA Anaheim (Nov2017)
- Multimodality imaging is the key to success (debate): CSI-LAA Frankfurt (Nov2017)
- How to start a program and how to find appropriate patients (panelist): CSI-LAA (Nov2017)
- AHA update: Culprit-Shock (discussant): UBC Cardiology dinner update (Nov2017)
- SCAD Update: Grand Rounds California Pacific Medical Center San Francisco (Nov2017)
- Update on LAA closure: Vancouver cardiology and stroke group (Dec2017)
- Interesting case presentation (coronary pseudoaneurysm): EIC Whistler (Dec2017)

Wood, David

- Use of a Prospective Clinical Pathway to Improve Outcomes and Reduce Length of Stay. 6th Canadian TAVI Implanters Meeting, Montreal, November 19-20, 2017.
- Insights from the 3M Trial. Transcatheter Cardiovascular Therapies (TCT) 2017. November 1, 2017, Denver, Colorado.
- Is Early Discharge Possible in the Real World? Results from the 3M Study. Transcatheter Cardiovascular Therapies (TCT) 2017. October 31, 2017, Denver, Colorado.
- The Vancouver Multidisciplinary, Multimodality, but Minimalist Clinical Pathway Facilitates Safe Next Day Discharge Home at Low, Medium and High Volume Transcatheter Aortic Valve Replacement Centres: the 3M TAVR Study. Transcatheter Cardiovascular Therapies (TCT) 2017. October 30, 2017, Denver, Colorado.
- Evolving Controversies and Indications for TAVR versus SAVR – time to lower the bar?, Year-in-Review, CCC 2017. October 21, 2017. Vancouver, BC

PUBLICATIONS

1. Abdelsayed M, Baruteau AE, Gibbs K, Sanatani S, **Krahn AD**, Probst V, Ruben PC. Differential calcium sensitivity in Na(V) 1.5 mixed syndrome mutants. *J Physiol.* 2017 Sep 15;595(18):6165-6186. doi: 10.1113/JP274536. Epub 2017 Aug 20. PubMed PMID: 28734073; PubMed Central PMCID: PMC5599485.
2. Ahmadi A, **Leipsic J**, Øvrehus KA, Gaur S, Bagiella E, Ko B, Dey D, LaRocca G, Jensen JM, Bøtker HE, Achenbach S, De Bruyne B, Nørgaard BL, Narula J. Lesion-Specific and Vessel-Related Determinants of Fractional Flow Reserve Beyond Coronary Artery Stenosis. *JACC Cardiovasc Imaging.* 2018 Jan 2. pii:S1936-878X(17)31130-0. doi: 10.1016/j.jcmg.2017.11.020. [Epub ahead of print] PubMed PMID: 29311033.
3. Allan KS, Henry S, Aves T, Banfield L, Victor JC, Dorian P, Healey JS, **Andrade J**, Carroll S, McGillion M. Comparison of health-related quality of life in patients with atrial fibrillation treated with catheter ablation or antiarrhythmic drug therapy: a systematic review and meta-analysis protocol. *BMJ Open.* 2017 Aug 21;7(8):e017577. doi: 10.1136/bmjopen-2017-017577. PubMed PMID:28827273; PubMed Central PMCID: PMC5724133.
4. **Andrade JG**, **Deyell MW**, Badra M, Champagne J, Dubuc M, Leong-Sit P, Macle L, **Novak P**, Roux JF, Sapp J, Tang A, Verma A, Wells GA, Khairy P. Randomised clinical trial of cryoballoon versus irrigated radio frequency catheter ablation for atrial fibrillation-the effect of double short versus standard exposure cryoablation duration during pulmonary vein isolation (CIRCA-DOSE): methods and rationale. *BMJ Open.* 2017 Oct 5;7(10):e017970. doi: 10.1136/bmjopen-2017-017970. PubMed PMID: 28982836; PubMed Central PMCID: PMC5639989.
5. **Andrade JG**, MacGillivray J, Macle L, Yao RJR, **Bennett M**, **Fordyce CB**, **Hawkins N**, **Krahn A**, **Jue J**, **Ramanathan K**, **Tsang T**, **Gin K**, **Deyell MW**. Clinical effectiveness of a systematic "pill-in-the-pocket" approach for the management of paroxysmal atrial fibrillation. *Heart Rhythm.* 2018 Jan;15(1):9-16. doi:10.1016/j.hrthm.2017.10.002. PubMed PMID: 29304952.
6. Aortic Stenosis Writing Group, Bonow RO, Brown AS, Gillam LD, Kapadia SR, Kavinsky CJ, Lindman BR, Mack MJ, Thourani VH; Aortic Stenosis Rating Panel, Dehmer GJ, Bonow RO, Lindman BR, Beaver TM, Bradley SM, Carabello BA, Desai MY, George I, Green P, Holmes DR Jr, Johnston D, **Leipsic J**, Mick SL, Passeri JJ, Piana RN, Reichel N, Ruiz CE, Taub CC, Thomas JD, Turi ZG; Appropriate Use Criteria Task Force, Doherty JU, Dehmer GJ, Bailey SR, Bhavane NM, Brown AS, Daugherty SL, Dean LS, Desai MY, Duvernoy CS, Gillam LD, Hendel RC, Kramer CM, Lindsay BD, Manning WJ, Mehrotra P, Patel MR, Sachdeva R, Wann LS, Winchester DE, Allen JM. ACC/AATS/AHA/ASE/EACTS/HVS/SCA/SCAI/SCCT/SCMR/STS 2017 Appropriate Use Criteria for the Treatment of Patients With Severe Aortic Stenosis: A Report of the American College of Cardiology Appropriate Use Criteria Task Force, American Association for

- Thoracic Surgery, American Heart Association, American Society of Echocardiography, European Association for Cardio-Thoracic Surgery, Heart Valve Society, Society of Cardiovascular Anesthesiologists, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Computed Tomography, Society for Cardiovascular Magnetic Resonance, and Society of Thoracic Surgeons. *J Am Soc Echocardiogr.* 2018 Feb;31(2):117-147. doi: 10.1016/j.echo.2017.10.020. Epub 2017 Dec 16. PubMed PMID: 29254695.
7. Attaei MW, Khatib R, McKee M, **Lear S**, Dagenais G, Igumbor EU, AlHabib KF, Kaur M, Kruger L, Teo K, Lanan F, Yusoff K, Oguz A, Gupta R, Yusufali AM, Bahonar A, Kutty R, Rosengren A, Mohan V, Avezum A, Yusuf R, Szuba A, Rangarajan S, Chow C, Yusuf S; PURE study investigators. Availability and affordability of blood pressure-lowering medicines and the effect on blood pressure control in high-income, middle-income, and low-income countries: an analysis of the PURE study data. *Lancet Public Health.* 2017 Sep;2(9):e411-e419. doi:10.1016/S2468-2667(17)30141-X. Epub 2017 Sep 5. PubMed PMID: 29253412.
 8. Barbic D, DeWitt C, Harris D, Stenstrom R, Grafstein E, Wu C, Vadeanu C, **Heilbron B**, Haaf J, **Tung S**, Kalla D, Marsden J, Christenson J, Scheuermeyer F. Implementation of an emergency department atrial fibrillation and flutter pathway improves rates of appropriate anticoagulation, reduces length of stay and thirty-day revisit rates for congestive heart failure. *CJEM.* 2017 Nov 9:1-9. doi:10.1017/cem.2017.418. [Epub ahead of print] PubMed PMID: 29117873.
 9. Biviano AB, Nazif T, Dizon J, Garan H, Abrams M, Fleitman J, Hassan D, Kapadia S, Babaliaros V, Xu K, Rodes-Cabau J, Szeto WY, Fearon WF, Dvir D, Dewey T, Williams M, Kindsvater S, Mack MJ, **Webb JG**, Craig Miller D, Smith CR, Leon MB, Kodali S. Atrial Fibrillation is Associated with Increased Pacemaker Implantation Rates in the Placement of AoRTic Transcatheter Valve (PARTNER) Trial. *J Atr Fibrillation.* 2017 Jun 30;10(1):1494. doi: 10.4022/jafib.1494. eCollection 2017 Jun-Jul. PubMed PMID: 29250217; PubMed Central PMCID: PMC5673323.
 10. Bom MJ, Driessen RS, Stuijzand WJ, Raijmakers PG, Van Kuijk CC, Lammertsma AA, van Rossum AC, van Royen N, Knuuti J, Mäki M, Nieman K, Min JK, **Leipsic JA**, Danad I, Knaapen P. Diagnostic Value of Transluminal Attenuation Gradient for the Presence of Ischemia as Defined by Fractional Flow Reserve and Quantitative Positron Emission Tomography. *JACC Cardiovasc Imaging.* 2017 Dec 8. pii:S1936-878X(17)30990-7. doi: 10.1016/j.jcmg.2017.10.009. [Epub ahead of print] PubMed PMID: 29248645.
 11. **Brunner NW**, Yue SF, Stub D, Ye J, Cheung A, **Leipsic J**, Lauck S, Dvir D, Perlman G, Htun N, Fahmy P, Prakash R, Eng L, **Ong K, Tsang M, Cairns JA, Webb JG, Wood DA**. The prognostic importance of the diastolic pulmonary gradient, transpulmonary gradient, and pulmonary vascular resistance in patients undergoing transcatheter aortic valve replacement. *Catheter Cardiovasc Interv.* 2017 Dec 1;90(7):1185-1191. doi: 10.1002/ccd.27107. Epub 2017 May 4. PubMed PMID:28471090.
 12. Douglas PS, Leon MB, Mack MJ, Svensson LG, **Webb JG**, Hahn RT, Pibarot P, Weissman NJ, Miller DC, Kapadia S, Herrmann HC, Kodali SK, Makkar RR, Thourani VH, Lerakis S, Lowry AM, Rajeswaran J, Finn MT, Alu MC, Smith CR, Blackstone EH; PARTNER Trial Investigators. Longitudinal Hemodynamics of Transcatheter and Surgical Aortic Valves in the PARTNER Trial. *JAMA Cardiol.* 2017 Nov 1;2(11):1197-1206. doi: 10.1001/jamacardio.2017.3306. PubMed PMID: 28973520; PubMed Central PMCID: PMC5710363.
 13. Ezekowitz JA, O'Meara E, McDonald MA, Abrams H, Chan M, Ducharme A, Giannetti N, Grzeslo A, Hamilton PG, Heckman GA, Howlett JG, Koshman SL, Lepage S, McKelvie RS, Moe GW, Rajda M, **Swiggum E, Virani SA**, Zieroth S, Al-Hesayen A, Cohen-Solal A, D'Astous M, De S, Estrella-Holder E, Fremes S, Green L, Haddad H, Harkness K, Hernandez AF, Kouz S, LeBlanc MH, Masoudi FA, Ross HJ, Roussin A, Sussex B. 2017 Comprehensive Update of the Canadian Cardiovascular Society Guidelines for the Management of Heart Failure. *Can J Cardiol.* 2017 Nov;33(11):1342-1433. doi:10.1016/j.cjca.2017.08.022. Epub 2017 Sep 6. PubMed PMID: 29111106.

14. Expert Panel on Cardiac Imaging and Vascular Imaging; **Leipsic JA**, Blanke P, Hanley M, Batlle JC, Bolen MA, Brown RKJ, Desjardins B, Eberhardt RT, Gornik HL, Hurwitz LM, Maniar H, Patel HJ, Sheybani EF, Steigner ML, Verma N, Abbara S, Rybicki FJ, Kirsch J, Dill KE. ACR Appropriateness Criteria(®) Imaging for Transcatheter Aortic Valve Replacement. *J Am Coll Radiol*. 2017 Nov;14(11S):S449-S455. doi: 10.1016/j.jacr.2017.08.046. PubMed PMID: 29101983.
15. **Fordyce CB**. Reduced critical care utilization: Another victory for effective bystander interventions in cardiac arrest. *Resuscitation*. 2017 Oct;119:A4-A5. doi: 10.1016/j.resuscitation.2017.08.009. Epub 2017 Aug 14. PubMed PMID:28818522.
16. **Fordyce CB**, Hansen CM, Kragholm K, Dupre ME, Jollis JG, Roettig ML, Becker LB, Hansen SM, Hinohara TT, Corbett CC, Monk L, Nelson RD, Pearson DA, Tyson C, van Diepen S, Anderson ML, McNally B, Granger CB. Association of Public Health Initiatives With Outcomes for Out-of-Hospital Cardiac Arrest at Home and in Public Locations. *JAMA Cardiol*. 2017 Nov 1;2(11):1226-1235. doi: 10.1001/jamacardio.2017.3471. PubMed PMID: 28979980; PubMed Central PMCID:PMC5710360.
17. Francois ME, **Pistawka KJ**, **Halperin FA**, Little JP. Cardiovascular benefits of combined interval training and post-exercise nutrition in type 2 diabetes. *J Diabetes Complications*. 2018 Feb;32(2):226-233. doi:10.1016/j.jdiacomp.2017.10.002. Epub 2017 Nov 29. PubMed PMID: 29198993.
18. G n reux P, Pibarot P, Redfors B, Mack MJ, Makkar RR, Jaber WA, Svensson LG, Kapadia S, Tuzcu EM, Thourani VH, Babaliaros V, Herrmann HC, Szeto WY, Cohen DJ, Lindman BR, McAndrew T, Alu MC, Douglas PS, Hahn RT, Kodali SK, Smith CR, Miller DC, **Webb JG**, Leon MB. Staging classification of aortic stenosis based on the extent of cardiac damage. *Eur Heart J*. 2017 Dec 1;38(45):3351-3358. doi: 10.1093/eurheartj/ehx381. PubMed PMID: 29020232.
19. Gloekler S, **Saw J**, Koskinas KC, Kleinecke C, Jung W, Nietlispach F, Meier B. Left atrial appendage closure for prevention of death, stroke, and bleeding in patients with nonvalvular atrial fibrillation. *Int J Cardiol* 2017;249:234-246.
20. Grover R, **Leipsic JA**, Mooney J, Kueh SH, Ohana M, N rgaard BL, Eftekhari A, Bax JJ, Murphy DT, Hague CJ, Seidman MA, Blanke P, **Sedlak T**, Sellers SL. Coronary lumen volume to myocardial mass ratio in primary microvascular angina. *J Cardiovasc Comput Tomogr*. 2017 Nov;11(6):423-428. doi:10.1016/j.jcct.2017.09.015. Epub 2017 Sep 22. PubMed PMID: 28993120.
21. Haas NA, **Carere RG**, Kretschmar O, Horlick E, Rod s-Cabau J, de Wolf D, Gewillig M, Mullen M, Lehner A, Deutsch C, Bramlage P, Ewert P. Early outcomes of percutaneous pulmonary valve implantation using the Edwards SAPIEN XT transcatheter heart valve system. *Int J Cardiol*. 2018 Jan 1;250:86-91. doi:10.1016/j.ijcard.2017.10.015. Epub 2017 Oct 6. PubMed PMID: 29017776.
22. Han D, Hartaigh B , Gransar H, Lee JH, Rizvi A, Baskaran L, Schulman-Marcus J, Dunning A, Achenbach S, Al-Mallah MH, Berman DS, Budoff MJ, Cademartiri F, Maffei E, Callister TQ, Chinnaiyan K, Chow BJW, DeLago A, Hadamitzky M, Hausleiter J, Kaufmann PA, Raff G, Shaw LJ, Villines TC, Kim YJ, **Leipsic J**, Feuchtner G, Cury RC, Pontone G, Andreini D, Marques H, Rubinshtein R, Hindoyan N, Jones EC, Gomez M, Lin FY, Chang HJ, Min JK. Incremental prognostic value of coronary computed tomography angiography over coronary calcium scoring for major adverse cardiac events in elderly asymptomatic individuals. *Eur Heart J Cardiovasc Imaging*. 2017 Jul 20. doi: 10.1093/ehjci/jex150. [Epub ahead of print] PubMed PMID: 28977374.
23. **Hawkins NM**. Chronic obstructive pulmonary disease and ventricular arrhythmia-Association or causation? *Heart Rhythm*. 2017 Oct 16. pii:S1547-5271(17)31211-0. doi: 10.1016/j.hrthm.2017.10.018. [Epub ahead of print] PubMed PMID: 29042295.
24. Hinohara TT, Al-Khalidi HR, **Fordyce CB**, Gu X, Sherwood MW, Roettig ML, Corbett CC, Monk L, Tamis-Holland JE, Berger PB, Burchenal JEB, Wilson BH, Jollis JG, Granger CB. Impact of Regional Systems of Care on Disparities in Care Among Female and Black Patients Presenting With ST-Segment-Elevation Myocardial Infarction. *J Am Heart Assoc*. 2017 Oct 24;6(10). pii:

- e007122. doi: 10.1161/JAHA.117.007122. PubMed PMID: 29066448; PubMed Central PMCID: PMC5721895.
25. **Humphries KH**, Lee MK, Izadnegahdar M, Gao M, Holmes DT, Scheuermeyer FX, Mackay M, Mattman A, Grafstein E. Sex Differences in Diagnoses, Treatment and Outcomes for Emergency Department Patients with Chest Pain and Elevated Cardiac Troponin. *Acad Emerg Med*. 2017 Dec 23. doi: 10.1111/acem.13371. [Epub ahead of print] PubMed PMID: 29274187.
 26. **Humphries KH**, Pilote L. Research in Women's Cardiovascular Health-Progress at Last? *Can J Cardiol*. 2017 Dec 28. pii: S0828-282X(17)31108-X. doi:10.1016/j.cjca.2017.10.019. [Epub ahead of print] PubMed PMID: 29290365.
 27. Jollis JG, Al-Khalidi HR, Roettig ML, Berger PB, Corbett CC, Doerfler S, **Fordyce CB**, Henry TD, Hollowell L, Magdon-Ismail Z, Kochar A, McCarthy JJ, Monk L, O'Brien PK, Rea TD, Shavadia J, Tamis-Holland J, Wilson BH, Ziada KM, Granger CB. Impact of Regionalization of ST Elevation Myocardial Infarction Care on Treatment Times and Outcomes for Emergency Medical Services Transported Patients Presenting to Hospitals with Percutaneous Coronary Intervention: Mission: Lifeline Accelerator-2. *Circulation*. 2017 Nov 14. pii: CIRCULATIONAHA.117.032446. doi: 10.1161/CIRCULATIONAHA.117.032446. [Epub ahead of print] PubMed PMID:29138292.
 28. Joseph P, Yusuf S, Lee SF, Ibrahim Q, Teo K, Rangarajan S, Gupta R, Rosengren A, **Lear SA**, Avezum A, Lopez-Jaramillo P, Gulec S, Yusufali A, Chifamba J, Lanus F, Kumar R, Mohammadifard N, Mohan V, Mony P, Kruger A, Liu X, Guo B, Zhao W, Yang Y, Pillai R, Diaz R, Krishnapillai A, Iqbal R, Yusuf R, Szuba A, Anand SS; PURE INVESTIGATORS. Prognostic validation of a non-laboratory and a laboratory based cardiovascular disease risk score in multiple regions of the world. *Heart*. 2017 Oct 24. pii: heartjnl-2017-311609. doi: 10.1136/heartjnl-2017-311609. [Epub ahead of print] PubMed PMID: 29066611.
 29. Kalisz K, Halliburton S, Abbara S, **Leipsic JA**, Albrecht MH, Schoepf UJ, Rajiah P. Update on Cardiovascular Applications of Multienergy CT. *Radiographics*. 2017 Nov-Dec;37(7):1955-1974. doi:10.1148/rg.2017170100. PubMed PMID: 29131773.
 30. Karur GR, Wald R, Goldstein MB, Wald R, Jimenez-Juan L, Kiaii M, **Leipsic J**, Kirpalani A, Bello O, Barthur A, Ng MY, Deva DP, Yan AT. Association between conversion to in-center nocturnal hemodialysis and right ventricular remodeling. *Nephrol Dial Transplant*. 2017 Aug 3. doi: 10.1093/ndt/gfx232. [Epub ahead of print] PubMed PMID: 28992094.
 31. Kueh SH, Boroditsky M, **Leipsic J**. Fractional flow reserve computed tomography in the evaluation of coronary artery disease. *Cardiovasc Diagn Ther*. 2017 Oct;7(5):463-474. doi: 10.21037/cdt.2017.01.04. Review. PubMed PMID: 29255690; PubMed Central PMCID: PMC5716947.
 32. Kusumoto FM, Schoenfeld MH, Wilkoff BL, Berul CI, Birgersdotter-Green UM, Carrillo R, Cha YM, Clancy J, Deharo JC, Ellenbogen KA, Exner D, Hussein AA, Kennergren C, **Krahn A**, Lee R, Love CJ, Madden RA, Mazzetti HA, Moore JC, Parsonnet J, Patton KK, Rozner MA, Selzman KA, Shoda M, Srivathsan K, Strathmore NF, Swerdlow CD, Tompkins C, Wazni O. 2017 HRS expert consensus statement on cardiovascular implantable electronic device lead management and extraction. *Heart Rhythm*. 2017 Dec;14(12):e503-e551. doi: 10.1016/j.hrthm.2017.09.001. Epub 2017 Sep 15. PubMed PMID: 28919379.
 33. Larsen CM, Ball CA, Hebl VB, **Ong KC**, Siontis KC, Olson TP, Ackerman MJ, Ommen SR, Allison TG, Geske JB. Effect of Body Mass Index on Exercise Capacity in Patients With Hypertrophic Cardiomyopathy. *Am J Cardiol*. 2018 Jan 1;121(1):100-106. doi: 10.1016/j.amjcard.2017.09.026. Epub 2017 Oct 12. PubMed PMID: 29126582.
 34. **Lear SA**, Yusuf S. Physical Activity to Prevent Cardiovascular Disease: A Simple, Low-Cost, and Widely Applicable Approach for All Populations. *JAMA Cardiol*. 2017 Dec 1;2(12):1358-1360. doi: 10.1001/jamacardio.2017.4070. PubMed PMID: 29117280.

35. **Lear SA**, Hu W, Rangarajan S, Gasevic D, Leong D, Iqbal R, Casanova A, Swaminathan S, Anjana RM, Kumar R, Rosengren A, Wei L, Yang W, Chuangshi W, Huaxing L, Nair S, Diaz R, Swidon H, Gupta R, Mohammadifard N, Lopez-Jaramillo P, Oguz A, Zatonska K, Seron P, Avezum A, Poirier P, Teo K, Yusuf S. The effect of physical activity on mortality and cardiovascular disease in 130 000 people from 17 high-income, middle-income, and low-income countries: the PURE study. *Lancet*. 2017 Dec 16;390(10113):2643-2654. doi: 10.1016/S0140-6736(17)31634-3. Epub 2017 Sep 21. Erratum in: *Lancet*. 2017 Dec 16;390(10113):2626. PubMed PMID: 28943267.
36. Lee D, Levin A, Kiess M, Sexsmith G, **Chakrabarti S**, Human D, Barlow A, **Grewal J**. Evaluation of Chronic Kidney Damage in the Fontan Population. Accepted to *IJC*.
37. Leung EC, Swiston JR, AlAhmari L, AlAhmari T, **Huckell VF**, **Brunner NW**. Validity of algorithm for estimating left sided filling pressures on echocardiography in a population referred for pulmonary arterial hypertension. *Pulm Circ*. 2017 Oct-Dec;7(4):2045893217740471. doi: 10.1177/2045893217740471. Epub 2017 Oct 17. PubMed PMID: 29040057.
38. Mahmoud AN, Taduru SS, Mentias A, Mahtta D, Barakat AF, Saad M, Elgendy AY, Mojadidi MK, Omer M, Abuzaid A, Agarwal N, Elgendy IY, Anderson RD, **Saw J**. Trends of Incidence, Clinical Presentation, and In-Hospital Mortality Among Women With Acute Myocardial Infarction With or Without Spontaneous Coronary Artery Dissection: A Population-Based Analysis. *JACC Cardiovasc Interv*. 2018 Jan 8;11(1):80-90. doi: 10.1016/j.jcin.2017.08.016. Epub 2017 Dec 13. PubMed PMID:29248409.
39. Main A, Prakash R, Starovoytov A, Sabbaghan A, **Aymong E**, **Mancini GBJ**, **Saw J**. Characteristics of extension and de novo recurrent spontaneous coronary artery dissection. *EuroIntervention*. 2017 Dec 8;13(12):e1454-e1459. doi:10.4244/EIJ-D-17-00264. PubMed PMID: 28891472.
40. McDonald MA, Ashley EA, Fedak PWM, **Hawkins N**, Januzzi JL, McMurray JJV, Parikh VN, Rao V, Svystonyuk D, Teerlink JR, **Virani S**. Mind the Gap: Current Challenges and Future State of Heart Failure Care. *Can J Cardiol*. 2017 Nov;33(11):1434-1449. doi: 10.1016/j.cjca.2017.08.023. Epub 2017 Sep 5. Review. PubMed PMID: 29111107.
41. Miller V, Mente A, Dehghan M, Rangarajan S, Zhang X, Swaminathan S, Dagenais G, Gupta R, Mohan V, **Lear S**, Bangdiwala SI, Schutte AE, Wentzel-Viljoen E, Avezum A, Altuntas Y, Yusoff K, Ismail N, Peer N, Chifamba J, Diaz R, Rahman O, Mohammadifard N, Lana F, Zatonska K, Wielgosz A, Yusufali A, Iqbal R, Lopez-Jaramillo P, Khatib R, Rosengren A, Kutty VR, Li W, Liu J, Liu X, Yin L, Teo K, Anand S, Yusuf S; Prospective Urban Rural Epidemiology (PURE) study investigators. Fruit, vegetable, and legume intake, and cardiovascular disease and deaths in 18 countries (PURE): a prospective cohort study. *Lancet*. 2017 Nov 4;390(10107):2037-2049. doi: 10.1016/S0140-6736(17)32253-5. Epub 2017 Aug 29. PubMed PMID: 28864331.
42. Mohammadifard N, **Humphries KH**, Gotay C, Mena-Sánchez G, Salas-Salvadó J, Esmailzadeh A, **Ignaszewski A**, Sarrafzadegan N. Trace minerals intake: Risks and benefits for cardiovascular health. *Crit Rev Food Sci Nutr*. 2017 Dec 13:1-13. doi: 10.1080/10408398.2017.1406332. [Epub ahead of print] PubMed PMID: 29236516.
43. Moulson N, Kelly J, Iqbal MB, **Saw J**. Histopathology of Coronary Fibromuscular Dysplasia Causing Spontaneous Coronary Artery Dissection. *JACC Cardiovasc Interv* 2017 (in press).
44. Nicol ED, Shambrook J, Shaw E, **Leipsic J**, Shaw L. Training and Service Provision in Cardiovascular CT: International Challenges and Solutions. *Curr Cardiol Rep*. 2017 Oct 18;19(12):123. doi: 10.1007/s11886-017-0936-9. Review. PubMed PMID: 29046971.
45. Parkash R, Thibault B, Philippon F, Mangat I, Coutu B, **Bennett M**, Crystal E, Healey J, Verma A, Sandhu R, Cameron D, Ayala-Paredes F, **Sterns L**, Essebag V, Sturmer M, Nery P, Wells G, **Krahn A**. Canadian Registry of Implantable Electronic Device Outcomes: Longer-term follow-up of the Riata lead under advisory. *Heart Rhythm*. 2017 Dec 2. pii: S1547-5271(17)31420-0. doi: 10.1016/j.hrthm.2017.11.033. [Epub ahead of print] PubMed PMID: 29198903.

46. Pibarot P, Hahn RT, Weissman NJ, Arsenault M, Beaudoin J, Bernier M, Dahou A, Khalique OK, Asch FM, Toubal O, **Leipsic J**, Blanke P, Zhang F, Parvataneni R, Alu M, Herrmann H, Makkar R, Mack M, Smalling R, Leon M, Thourani VH, Kodali S. Association of Paravalvular Regurgitation With 1-Year Outcomes After Transcatheter Aortic Valve Replacement With the SAPIEN 3 Valve. *JAMA Cardiol.* 2017 Nov 1;2(11):1208-1216. doi: 10.1001/jamacardio.2017.3425. PubMed PMID:28973091; PubMed Central PMCID: PMC5710359.
47. **Rabkin SW**. Criteria for short QT interval based on a new QT-heart rate adjustment formula. *J Arrhythm.* 2017 Oct;33(5):525-527. doi:10.1016/j.joa.2017.04.004. Epub 2017 May 6. PubMed PMID: 29021866; PubMed Central PMCID: PMC5634756.
48. **Rabkin SW**. Is Reduction in Coronary Blood Flow the Mechanism by Which Epicardial Fat Produces Left Ventricular Diastolic Dysfunction? *Can J Cardiol.* 2017 Nov;33(11):1459-1461. doi: 10.1016/j.cjca.2017.08.013. Epub 2017 Sep 1. PubMed PMID: 28974325.
49. **Ramanathan K**, Abel JG, Park JE, **Fung A**, Mathew V, **Taylor CM**, **Mancini GBJ**, Gao M, Ding L, Verma S, **Humphries KH**, Farkouh ME. Surgical Versus Percutaneous Coronary Revascularization in Patients With Diabetes and Acute Coronary Syndromes. *J Am Coll Cardiol.* 2017 Dec 19;70(24):2995-3006. doi:10.1016/j.jacc.2017.10.029. PubMed PMID: 29241487.
50. Reichenspurner H, Schaefer A, Schäfer U, Tchétché D, Linke A, Spence MS, Søndergaard L, LeBreton H, Schymik G, Abdel-Wahab M, **Leipsic J**, Walters DL, Worthley S, Kasel M, Windecker S. Self-Expanding Transcatheter Aortic Valve System for Symptomatic High-Risk Patients With Severe Aortic Stenosis. *J Am Coll Cardiol.* 2017 Dec 26;70(25):3127-3136. doi: 10.1016/j.jacc.2017.10.060. PubMed PMID: 29268926.
51. Riahi M, Blanke P, **Webb J**, **Careere RG**. Early leaflet thrombosis complicating transcatheter implantation of a Sapien 3 valve in a native right ventricular outflow tract. *Catheter Cardiovasc Interv.* 2017 Sep 12. doi: 10.1002/ccd.27183. [Epub ahead of print] PubMed PMID: 28895301.
52. Riahi M, Claman A, **Kiess M**, Orgad M, Human D, **Chakrabarti S**, **Leipsic J**, **Grewal J**. Longitudinal sequential biventricular assessment in adults with transposition of the great arteries and relationship with adverse outcomes. *Int J Cardiol.* 2017 Dec 1;248:131-135. doi: 10.1016/j.ijcard.2017.08.007. Epub 2017 Aug 5. PubMed PMID: 28818352.
53. Ribeiro HB, Rodés-Cabau J, Blanke P, **Leipsic J**, Kwan Park J, Bapat V, Makkar R, Simonato M, Barbanti M, Schofer J, Bleiziffer S, Latib A, Hildick-Smith D, Presbitero P, Windecker S, Napodano M, Cerillo AG, Abdel-Wahab M, Tchetché D, Fiorina C, Sinning JM, Cohen MG, Guerrero ME, Whisenant B, Nietlispach F, Palma JH, Nombela-Franco L, de Weger A, Kass M, Sandoli de Brito F Jr, Lemos PA, Kornowski R, **Webb J**, Dvir D. Incidence, predictors, and clinical outcomes of coronary obstruction following transcatheter aortic valve replacement for degenerative bioprosthetic surgical valves: insights from the VIVID registry. *Eur Heart J.* 2017 Aug 14. doi: 10.1093/eurheartj/ehx455. [Epub ahead of print] PubMed PMID: 29020413.
54. Roberts JD, **Krahn AD**, Ackerman MJ, Rohatgi RK, Moss AJ, Nazer B, Tadros R, Gerull B, Sanatani S, Wijeyeratne YD, Baruteau AE, Muir AR, Pang B, Cadrin-Tourigny J, Talajic M, Rivard L, Tester DJ, Liu T, Whitman IR, Wojciak J, Conacher S, Gula LJ, Leong-Sit P, Manlucu J, Green MS, Hamilton R, Healey JS, Lopes CM, Behr ER, Wilde AA, Gollob MH, Scheinman MM. Loss-of-Function KCNE2 Variants: True Monogenic Culprits of Long-QT Syndrome or Proarrhythmic Variants Requiring Secondary Provocation? *Circ Arrhythm Electrophysiol.* 2017 Aug;10(8). pii: e005282. doi: 10.1161/CIRCEP.117.005282. PubMed PMID: 28794082.
55. Rosenfeld G, Brown J, Vos PM, **Leipsic J**, Enns R, Bressler B. Prospective Comparison of Standard- Versus Low-Radiation-Dose CT Enterography for the Quantitative Assessment of Crohn Disease. *AJR Am J Roentgenol.* 2018 Feb;210(2):W54-W62. doi: 10.2214/AJR.17.18296. Epub 2017 Dec 20. PubMed PMID:29261354.
56. Roston TM, Dewar L, Franciosi S, Hathaway J, Bartels K, Cunningham T, Gibbs KA, Sheps S, **Laksman ZWM**, Sanatani S, **Krahn AD**. The accessibility and utilization of genetic testing for inherited heart rhythm disorders: a Canadian cross-sectional survey study. *J Community*

- Genet. 2017 Nov 23. doi: 10.1007/s12687-017-0348-y. [Epub ahead of print] PubMed PMID: 29170972.
57. Roston T, **Krahn AD**. My Approach to the patient with a borderline long QT interval. *Trends Cardiovasc Med*. 2017 Oct;27(7):516-517. doi:10.1016/j.tcm.2017.06.009. Epub 2017 Jun 13. PubMed PMID: 28684210.
 58. Ruel I, Aljenedil S, Sadri I, de Varennes É, Hegele RA, Couture P, Bergeron J, Wanneh E, Baass A, Dufour R, Gaudet D, Brisson D, Brunham LR, Francis GA, Cermakova L, Brophy JM, Ryomoto A, **Mancini GBJ**, Genest J. Imputation of Baseline LDL Cholesterol Concentration in Patients with Familial Hypercholesterolemia on Statins or Ezetimibe. *Clin Chem*. 2018 Feb;64(2):355-362. doi:10.1373/clinchem.2017.279422. Epub 2017 Oct 16. PubMed PMID: 29038147.
 59. Sarak B, Goodman SG, Brieger D, Gale CP, Tan NS, Budaj A, **Wong GC**, Huynh T, Tan MK, Udell JA, Bagai A, Fox KAA, Yan AT; Global Registry of Acute Coronary Events (GRACE) Investigators and the Canadian Acute Coronary Syndromes I Investigators. Electrocardiographic Findings in Patients With Acute Coronary Syndrome Presenting With Out-of-Hospital Cardiac Arrest. *Am J Cardiol*. 2018 Feb 1;121(3):294-300. doi: 10.1016/j.amjcard.2017.10.030. Epub 2017 Nov 3. PubMed PMID: 29197473.
 60. **Saw J, Humphries K, Mancini GBJ**. Reply: Should We Recommend Cardiac Rehabilitation in Patients With Spontaneous Coronary Artery Dissection? *J Am Coll Cardiol*. 2018 Jan 30;71(4):473. doi: 10.1016/j.jacc.2017.10.058. PubMed PMID:29389373.
 61. **Saw J**. Reply: Pregnancy-Associated Coronary Artery Dissection: A Therapeutic Dilemma. *J Am Coll Cardiol*. 2018 Jan 30;71(4):470-471. doi:10.1016/j.jacc.2017.09.1154. PubMed PMID: 29389370.
 62. **Saw J**. Long-Term Results With Left Atrial Appendage Closure: Watching the Watchman. *J Am Coll Cardiol*. 2017 Dec 19;70(24):2976-2978. doi:10.1016/j.jacc.2017.10.056. Epub 2017 Nov 2. PubMed PMID: 29104013.
 63. Scali E, **Mayo J**, Nicolaou S, Kozoriz M, Chang S. Senior medical students' awareness of radiation risks from common diagnostic imaging examinations. *Can Med Educ J*. 2017 Dec 15;8(4):e31-e41. eCollection 2017 Dec. PubMed PMID: 29354195; PubMed Central PMCID: PMC5766217.
 64. Sears SF, Rosman L, Sasaki S, Kondo Y, **Sterns LD**, Schloss EJ, Kurita T, Meijer A, Rajmakers J, Geritse B, Auricchio A. Defibrillator shocks and their effect on objective and subjective patient outcomes: Results of the PainFree SST clinical trial. *Heart Rhythm*. 2017 Dec 24. pii: S1547-5271(17)31460-1. doi: 10.1016/j.hrthm.2017.12.026. [Epub ahead of print] PubMed PMID: 29277687.
 65. Shaw LJ, Blankstein R, Jacobs JE, **Leipsic JA**, Kwong RY, Taqueti VR, Beanlands RSB, Mieres JH, Flamm SD, Gerber TC, Spertus J, Di Carli MF; American Heart Association Cardiovascular Imaging and Intervention Subcommittee of the Council on Clinical Cardiology; Council on Cardiovascular Radiology and Intervention; Council on Cardiovascular and Stroke Nursing; Council on Cardiovascular Disease in the Young; and Council on Quality of Care and Outcomes Research. Defining Quality in Cardiovascular Imaging: A Scientific Statement From the American Heart Association. *Circ Cardiovasc Imaging*. 2017 Dec;10(12). pii: e000017. doi:10.1161/HCI.0000000000000017. Review. PubMed PMID: 29242239.
 66. Shurrab M, Janmohamed A, Sarrazin JF, Ayala-Paredes F, Sturmer M, Williams R, Toal S, **Lane C**, Thorpe KE, Healey JS, Crystal E. The Dx-AF study: a prospective, multicenter, randomized controlled trial comparing VDD-ICD to VVI-ICD in detecting sub-clinical atrial fibrillation in defibrillator patients. *J Interv Card Electrophysiol*. 2017 Oct;50(1):57-63. doi: 10.1007/s10840-017-0276-0. Epub 2017 Jul 27. PubMed PMID: 28752228.
 67. Stanger D, Mihajlovic V, Singer J, Desai S, El-Sayegh R, **Wong GC**. Effects of targeted temperature management on mortality and neurological outcome: A systematic review and meta-analysis. *Eur Heart J Acute Cardiovasc Care*. 2017 Nov 1:2048872617744353. doi: 10.1177/2048872617744353. [Epub ahead of print] PubMed PMID: 29172657.

68. Stocker TJ, Deseive S, Chen M, **Leipsic J**, Hadamitzky M, Rubinshtein R, Grove EL, Fang XM, Lesser J, Maurovich-Horvat P, Marques H, Andreini D, Tabbalat R, Kang JW, Eckert J, Dickson P, Forsdahl SH, Lambrechtsen J, Cury RC, Hausleiter J. Rationale and design of the worldwide prospective multicenter registry on radiation dose estimates of cardiac CT angiography in daily practice in 2017 (PROTECTION VI). *J Cardiovasc Comput Tomogr.* 2018 Jan - Feb;12(1):81-85. doi:10.1016/j.jcct.2017.11.015. Epub 2017 Dec 5. PubMed PMID: 29233632.
69. Sugumar H, Tung MK, Lee AJ, Bashir J, **Lane C**. Subcutaneous ICD lead position affects defibrillation threshold. *HeartRhythm Case Rep.* 2017 Nov 21;4(1):29-30. doi: 10.1016/j.hrcr.2017.10.017. eCollection 2018 Jan. PubMed PMID: 29379723; PubMed Central PMCID: PMC5775443.
70. **Virani SA**, Bains M, Code J, Ducharme A, Harkness K, Howlett JG, Ross H, Sussex B, Zieroth S; Board and Membership of the Canadian Heart Failure Society. The Need for Heart Failure Advocacy in Canada. *Can J Cardiol.* 2017 Nov;33(11):1450-1454. doi: 10.1016/j.cjca.2017.08.024. Epub 2017 Sep 11. PubMed PMID: 29111108.
71. Wald RM, Farkouh M, Caldarone C, Dahdah N, Dallaire F, Drolet C, **Grewal J**, Hickey E, Kayedpour C, Khairy P, Leonardi B, McCrindle B, Nadeem S, Ng M, Oechslin E, Redington A, Silversides C, Tham E, Therrien J, Vonder Muhll I, Warren A, Wintersperger B, Kovacs A. Patient-Reported Outcomes in Tetralogy of Fallot: Baseline Results From a Prospective, International, Multi-Site Study. *American Heart Association Journal.* November 2017
72. Wan D, Tsui C, **Kiess M, Grewal J, Krahn AD, Chakrabarti S**. Anticoagulation for Thromboembolic Risk Reduction in Adults With Congenital Heart Disease. *Can J Cardiol.* 2017 Dec;33(12):1597-1603. doi: 10.1016/j.cjca.2017.08.009. Epub 2017 Aug 19. Review. PubMed PMID: 29066332.
73. **Webb JG**. Transcatheter or surgical valve replacement: which strategy when bioprosthetic valves fail? *EuroIntervention.* 2017 Nov 20;13(10):1137-1139. doi:10.4244/EIJV13I10A177. PubMed PMID: 29151435.
74. **Webb JG**, Attinger-Toller A. SOURCE 3 at 1 year: what can we learn? *Eur Heart J.* 2017 Sep 21;38(36):2727-2728. doi: 10.1093/eurheartj/ehx422. PubMed PMID:29044382.
75. **Webb J**, Murdoch D, **Wood DA**. Transcatheter or surgical valve replacement: which strategy when bioprosthetic valves fail? *EuroIntervention.* 2017 Nov 20;13(10):1137-1139. doi: 10.4244/EIJV13I10A177.
76. Xie JX, Cury RC, **Leipsic J**, Crim MT, Berman DS, Gransar H, Budoff MJ, Achenbach S, Ó Hartaigh B, Callister TQ, Marques H, Rubinshtein R, Al-Mallah MH, Andreini D, Pontone G, Cademartiri F, Maffei E, Chinnaiyan K, Raff G, Hadamitzky M, Hausleiter J, Feuchtner G, Dunning A, DeLago A, Kim YJ, Kaufmann PA, Villines TC, Chow BJW, Hindoyan N, Gomez M, Lin FY, Jones E, Min JK, Shaw LJ. The Coronary Artery Disease-Reporting and Data System (CAD-RADS): Prognostic and Clinical Implications Associated With Standardized Coronary Computed Tomography Angiography Reporting. *JACC Cardiovasc Imaging.* 2018 Jan;11(1):78-89. doi:10.1016/j.jcmg.2017.08.026. PubMed PMID: 29301713.
77. Yeung DF, Johnston A, Simmons C, Goddard K, Dewar LR, Yee J, Kelliher E, **Tsang MYC, Gin K, Jue J, Nair P, Lee PK, Tsang TSM**. Multimodality imaging of a pulmonary artery sarcoma. *Echocardiography.* 2018 Jan;35(1):123-125. doi:10.1111/echo.13754. Epub 2017 Nov 26. PubMed PMID: 29178279.
78. Yim J, Cho H, **Rabkin SW**. Gene expression and gene associations during the development of heart failure with preserved ejection fraction in the Dahl salt sensitive model of hypertension. *Clin Exp Hypertens.* 2018;40(2):155-166. doi:10.1080/10641963.2017.1346113. Epub 2017 Nov 15. PubMed PMID: 29140729.

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You are invited to submit brief details of any Publications, Grants awarded, Invited Lectures at Other Institutions and any Awards or Distinctions received during January-March 2018 for the next issue – deadline end of March 2018

Your research achievements welcomed at any time

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