ROBIN VARGHESE MD, MS, FRCSC

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■212-659-9360■robin.varghese@mountsinai.org

Current Appointments:

July 2015-Present Associate Professor of Surgery

Department of Cardiovascular Surgery Icahn School of Medicine at Mount Sinai

The Mount Sinai Hospital New York, New York

May 2015-Present System Director, Cardiothoracic Critical Care

Department of Cardiovascular Surgery Icahn School of Medicine at Mount Sinai

Mount Sinai Health System New York, New York

Past Appointments:

July 2010 – June 2015 Assistant Professor of Surgery

Department of Cardiovascular Surgery Icahn School of Medicine at Mount Sinai

The Mount Sinai Hospital New York, New York

Dec 2013-April 2015 Surgical Director, Cardiothoracic Critical Care

Department of Cardiovascular Surgery Icahn School of Medicine at Mount Sinai

The Mount Sinai Hospital New York, New York

EDUCATION:

July 2009-June 2010 Instructor

Advanced Cardiac Surgery Fellowship Department of Cardiothoracic Surgery

Mount Sinai School of Medicine/Mount Sinai Hospital, New York

Focus in Mitral Valve Repair, Aortic Valve/Root Surgery

July 2007-June 2009 Critical Care Fellowship Program (FRCSC Subspecialty Certification)

Division of Critical Care

University of Western Ontario, Canada Chief Fellow July 2008-June 2009

July 2002-June 2008 Cardiac Surgery Residency Program (FRCSC)

Division of Cardiac Surgery

University of Western Ontario: Graduation June 2008

Chief Resident: July 2006-June 2008

Sept 2005-Aug 2006 Masters of Science, Clinical Epidemiology (MS)

Department of Health Research & Policy Stanford University, Stanford, California

Thesis: Cohort outcomes analysis of endovascular stenting versus open

surgical repair of descending thoracic aortic disease

Sept. 1998-May 2002 **Doctor of Medicine Program (MD)**

Faculty of Medicine & Dentistry, University of Western Ontario, London,

Ontario

Sept 1994- May 1998 Honours Bachelor's of Science (HBSc)

Graduation with Distinction

Faculty of Arts and Science, University of Toronto Specialty in Human Biology & Pharmacology

EXAMINATIONS:

June 2002 Medical Council of Canada Qualifying Examination Part I
October 2003 Medical Council of Canada Qualifying Examination Part II

May 2004 Royal College of Physicians & Surgeons Principles of Surgery Exam

August 2006 United States Medical Licensing Exam – Step I

March 2007 United States Medical Licensing Exam – Step II-CK

November 2007 United States Medical Licensing Exam – Step II-CS

June 2008 Royal College of Physicians & Surgeons of Canada –Fellowship

Examinations in Cardiac Surgery (FRCSC)

September 2009 Royal College of Physicians & Surgeons of Canada – Fellowship

Examinations in Critical Care Medicine

DISTINCTIONS:

October 2009 Anemia Institute Research & Education Award for best paper related to blood

conservation/utilization. Presented at Canadian Cardiovascular Society Conference

2009.

May 2009 Dr. William Sibbald Research Award for best Research Presentation at UWO/McMaster

University Annual Critical Care Research Day

March 2009,

March 2006	Nominated for University of Western Ontario Meds '49 Outstanding Senior Resident		
	Teaching Award		
2003-2009	Outstanding Medical Student Teacher Recognition: University of Western Ontario		
1999-'01	Canadian Millennium Scholarship (x3)		
1997	Regent's In-Course Scholarship		
1995-'98	Dean's List Standing		
1994	Merit Award		
1994	Ontario Scholar		

CURRENT COMMITTEE INVOLVEMENT:

Inly	2015-	Present

• <u>Department Representative</u>, Hospital-wide RED (reduction in excess days) Committee

- Primary aim: To decrease the length of stay in the department of cardiovascular surgery by improving plans of care and efficiencies in care after cardiac surgery.
- Monthly meetings with Hospital Chief Medical Officer

July 2014-Present

• Member, Blood Bank Transfusion Committee

- Primary aim: To monitor, manage blood product usage hospital-wide, to improve the evidence based usage of blood products, to develop policies and protocols for hospital wide blood usage.
- Quarterly Meetings

Sept 2013-Present

Member, Stop Sepsis Hospital Wide Committee

- Primary aim: To decrease mortality from sepsis hospital wide by instituting a sepsis protocol hospital wide.
- Monthly monitoring of sepsis events and time to appropriate care.

July 2012-Present

Chair, Cardiac Surgical Critical Care Quality Improvement Committee

- Primary aim: To improve care we provide in the CTICU.
- I created this monthly multidisciplinary team meeting in CTICU to focus on critical care quality improvement and protocol development using evidenced based strategies.
- Allows all levels of health care team members (physicians, nursing, physical therapy, social work, nutritionist, pharmacy) in CTICU to participate and express suggestions/concerns regarding the management of patients in the CTICU.

July 2011-Present

Member, Cardiothoracic Surgery Residency Review Committee

• Discuss, evaluate and organize residency training for all cardiothoracic trainees

June 2013-Present

Member, Critical Care Emergency Preparedness Committee

• Represent the CTICU in this hospital wide critical care committee aimed at addressing intensive care planning during a natural/iatrogenic disaster requiring a surge in patients or transfer of critically ill patients out of ICUs.

Sept. 2013-Present

- <u>Member</u>, Reducing Catheter/Line Related Blood Stream Infections (CLABSI) committee
- Cardiac surgical ICU champion for rolling out new policies to reduce CLABSI.

June 2012-Present Member, Critical Care Committee

• Hospital-wide committee for all intensive care units to streamline care and address

issues/improvements in intensive care at Mount Sinai.

July 2010-Present <u>Member</u>, Department of Cardiothoracic Surgery Performance Improvement

Committee

• Focus on strategies to improve quality in care provided by department.

PAST COMMITTEE INVOLVEMENT:

July 2008-June 2009 <u>Member,</u> University of Western Ontario Program in Critical Care Fellowship training

committee

• Review critical care training program, address concerns

• Represent 20 critical care fellows/residents concerns to committee

July 2006-June 2007 <u>Executive Member</u>, North American Thoracic Surgery Residency

Association

• Promote and support Cardiothoracic Surgery Training in North America

• Head of International Relations Committee

May 2004-Present Member, Residency Program Review Committee

• Involved in assessing quality and standards of Royal College Residency Programs

Jan. 2004-Present <u>Instructor</u>, Advanced Cardiac Life Support Course (ACLS)

• Instruct and invigilate Health care Providers for ACLS certification

Mar. '02-Mar. '04 Member, Board of Directors, Kerala Christian Assembly.

• Involved in managing administration and operations of church

• Part of building committee to build 14 000sq ft. church building

Mar. '99-June 2005 Youth Leader, of attended Church

• Organize meetings/events for over 80 young people

• Mentor young people and provide support

Sept. '98-June '99 Class Vice-President, Medical School Class of 2002

• General management of class affairs, fundraising and charity work

Jan.- Feb. '99 Director, Student Interview Committee for Dean of Medicine Candidates

• Organized each interview with potential Dean candidates

• Prepared final position paper and submitted to office of university president

RESEARCH ACTIVITIES:

January 2014-Present 20 Year Outcomes of the Ross Procedure in over 600 cases: This research endeavor is

funded and currently being designed with data collection onging.

Oct 2014-Jan 2017 Site Principal Investigator: LEVO-CTS Randomized Clinical Trial: Examining the use

of Levosimenden in perioperative cardiac surgical patients with cardiomyopathy.

March 2014-July 2015 Site Principal Investigator for NIH Funded Cardiothoracic Surgical Trials Network

Study: Patients randomized for management of postoperative Atrial Fibrillation to

rhythm versus rate control.

March 2013-Oct 2015 Site Co-investigator Edwards Commence Clinical Trial

Prospective non-randomized trial examining outcomes of novel aortic valve

replacement therapies.

May 2012-June 2014 Site Co-investigator for NIH Funded Cardiothoracic Surgical Trials Network Study:

Surgical ablation versus no surgical ablation for patients with persistent or longstanding

persistent atrial fibrillation undergoing mitral valve surgery.

PUBLICATIONS:

The Ross outlasts its critics and competition. Stelzer P, $\boldsymbol{Varghese}\ \boldsymbol{R}.$

J Am Coll Cardiol. 2017 Oct 10;70(15):1900-1901.

Current approach to diagnosis and treatment of delirium after cardiac surgery.

Evans AS, Weiner MM, Arora RC, Chung I, Deshpande R, Varghese R, Augoustides J, Ramakrishna H.

Ann Card Anaesth. 2016 Apr-Jun;19(2):328-37.

PMID: 27052077

Blood Conservation in Cardiac Surgery: In Need of a Transfusion Revolution.

Varghese R, Jhang J.

Semin Cardiothorac Vasc Anesth. 2015 Dec;19(4):293-301.

PMID: 26660053

Ross procedure in the setting of anomalous aortic origin of a coronary artery.

Pawale A, Yanagawa B, Varghese R, Stelzer P.

J Thorac Cardiovasc Surg. 2015 Oct;150(4):1000-2. Epub 2015 Jul 26.

PMID: 26277473

Surgical ablation of atrial fibrillation during mitral-valve surgery.

Gillinov AM, Gelijns AC, Parides MK, DeRose JJ Jr, Moskowitz AJ, Voisine P, Ailawadi G, Bouchard D, Smith PK, Mack MJ, Acker MA, Mullen JC, Rose EA, Chang HL, Puskas JD, Couderc JP, Gardner TJ, **Varghese R,** Horvath KA, Bolling SF, Michler RE, Geller NL, Ascheim DD, Miller MA, Bagiella E, Moquete EG, Williams P, Taddei-Peters WC, O'Gara PT, Blackstone EH, Argenziano M; CTSN Investigators.

N Engl J Med. 2015 Apr 9;372(15):1399-409.

PMID: 25853744

Results with SynCardia total artificial heart beyond 1 year.

Torregrossa G, Morshuis M, **Varghese R**, Hosseinian L, Vida V, Tarzia V, Loforte A, Duveau D, Arabia F, Leprince P, Kasirajan V, Beyersdorf F, Musumeci F, Hetzer R, Krabatsch T, Gummert J, Copeland J, Gerosa G. ASAIO J. 2014 Nov-Dec;60(6):626-34.

PMID: 25158888

Operative mortality and morbidity after the Ross procedure: a 26- year learning curve.

Stelzer P, Itagaki S, Varghese R, Chikwe J.

J Heart Valve Dis. 2013 Nov;22(6):767-75.

PMID: 24597396

Varghese R, Itagaki S, Anyanwu AC, Adams DH. Predictors of early left ventricular dysfunction after mitral valve reconstruction: The effect of atrial fibrillation and pulmonary hypertension. Journal of Thoracic and Cardiovascular Surgery 2014 Aug; 148(2) 422-7 PMID: 24176266

Anyanwu AC, Itagaki S, **Varghese R**, Castillo JC, Chikwe J, Adams DH. Re-repair of the mitral valve as a primary strategy for early and late failures of mitral valve repair. European Journal of Cardiothoracic Surgery 2014 Feb;45(2):352-8. PMID: 23864217

Varghese R, Itagaki S, Anyanwu AC, Adams DH. Predicting Systolic Anterior Motion after mitral valve reconstruction for degenerative disease: Using intraoperative transesophageal echocardiography to identify those at greatest risk. European Journal of Cardiothoracic Surgery. 2014 Jan;45(1):132-7 PMID: 23657548

Varghese R. Paradoxical stitches aim to discipline the anterior leaflet to avoid postplasty systolic anterior motion: Invited Reply to the Editor. Journal of Thoracic and Cardiovascular Surgery2013 Mar;145(3):895. PMID: 23415004

Itagaki S, Hossenian L, **Varghese R.** Management of Right Ventricular Failure. Seminars in Thoracic and Cardiovascular Surgery. 2012 Autumn;24(3):188-94. PMID: 23200073

Varghese R, Anyanwu AC, Itagaki S, Milla F, Castillo JC, Adams DH. Management of Systolic Anterior Motion after Mitral Valve Repair: An Algorithm. Journal of Thoracic and Cardiovascular Surgery 2012 Apr;143(4 Suppl):S2-7

Gabriele Di Luozzo, Aditya S. Shirali, **Robin Varghese**, Hung-Mo Lin, Aaron Weiss, Mortiz Bischoff, Christian D. Etz, and Randall B. Griepp. Survival and Quality of Life of Septuagenarians and Octogenarians following Descending and Thoracoabdominal Aortic Aneurysm Repair. 2013 Feb;145(2):378-84.

Milla F, Castillo JG, **Varghese R**, Chikwe J, Anyanwu AC, Adams DH. *Rationale & Initial Experience with the Tri-Ad Adams Tricuspid Annuloplasty Ring*. Journal of Thorac & Cardiovascular Surg. 2012 Apr;143(4 Suppl):S71-3.

Varghese R, Adams DH. Techniques in Posterior Leaflet Prolapse of the Mitral Valve. Operative Techniques in Thoracic & Cardiovascular Surgery Winter 2011.

Mary Lee, Paul Stelzer, **Robin Varghese** & Gregory W. Fischer. Assessment of Surgical Septal Myectomy by Real-Time 3 Dimensional Transesophageal Echocardiography. Journal of Cardiothoracic & Vascular Anesthesia Apr 2011;25(2):306-8.

Raikhelkar JK, Reich DL, Schure R, **Varghese R**, Bodian C, Scurlock C. The efficacy of post-cardiopulmonary bypass dosing of vancomycin in cardiac surgery. Semin Cardiothorac Vasc Anesth. 2010 Dec;14(4):301-4.

Varghese R., Myers ML. Transfusion in the Perioperative Cardiac Surgery Patient. Seminars in Thoracic and Cardiovascular Surgery. 2010 Summer;22(2):121-6.

Varghese R., Akujuo A, Adams DH. Right coronary artery occlusion after tricuspid valve annuloplasty. Seminars in Thoracic and Cardiovascular Surgery. 2010 Summer;22(2):189-90.

Ernst C, **Varghese R**, Raikelkhar J, Kellner C. Electroconvulsive therapy (ECT) for catatonia after mitral valve replacement. American Journal of Psychiatry 2010 Oct;167(10):1278.

Mary Lee, Paul Stelzer, **Robin Varghese**, & Gregory W. Fischer. Assessment of Surgical Septal Myectomy by Real-Time 3 Dimensional Transesophageal Echocardiography. Journal of Cardiothoracic & Vascular Anesthesia Apr 2011;25(2):306-8.

Mary Lee, Paul Stelzer, **Robin Varghese**, & Gregory W. Fischer. Diagnostic Dilemma: Accessory Mitral Valve Leaflet Journal of Cardiothoracic & Vascular Anesthesia. Oct 2010;24(5):890-1.

Varghese R., Boyd WD. Off-Pump Coronary Artery Bypass Surgery: What are the Pros & Cons? University of Western Ontario Medical Journal: 2001.

Daniel Y. Sze, Maurice A.A.J. van den Bosch, Michael D. Dake, D. Craig Miller, Lawrence V. Hofmann, **Robin Varghese**, S. Chris Malaisrie, Pieter J.A. van der Starre, Jarrett Rosenberg, and R. Scott Mitchell Factors Portending Endoleak Formation After Thoracic Aortic Stent-Graft Repair of Complicated Aortic Dissection. Circulation Cardiovasc Intervent. 2009;2:105-112;

Bravata D, Gienger A, McDonald KM, Sundaram V, Perez M, **Varghese R**, Kapoor JR, Ardehali R, Owens DK, Hlatky MA. The Comparative Effectiveness of Percutaneous Coronary Interventions and Coronary Artery Bypass Surgery: A Systematic Review. Annals of Internal Medicine 2007 147 (10): 703-16

Kapoor J, Gienger A, Ardehali R, **Varghese R**, et al. Isolated Disease of the Proximal Left Anterior Descending Artery. JACC Cardiovasc Interv. 2008 Oct;1(5):483-91.

BOOK CHAPTERS:

Stelzer P, **Varghese R.** Stentless Aortic Valve Replacement Options. Cardiac Surgery in the Adult 4th edition. McGraw-Hill: 2016 In Press.

Varghese R. Cardiothoracic Critical Care – Modern Concepts. IGI Global: 2015.

Varghese R, Stelzer P. The use of the Pulmonary Autograft in Aortic Regurgitation. Current Treatments in Aortic Regurgitation: Editor; Dr. Hans Joachim Schafers. 2014.

Varghese R, Castillo J, Adams DH. <u>Mitral Annuloplasty Rings in Reconstructive Mitral Valve Surgery</u>. Cardiothoracic Surgery Review: LWW 2012.

Stelzer P, **Varghese R.** Aortic Homografts & Pulmonary Autografts. Cardiac Surgery in the Adult 3rd edition. McGraw-Hill: 2012.

PRESENTATIONS:

Excellent Outcomes in Asymptomatic Patients with Degenerative Mitral Valve Disease. American Association for Thoracic Surgery (AATS) Mitral Conclave, New York: May 2013.

Predicting Early Left Ventricular Dysfunction after Mitral Valve Repair. Society for Thoracic Surgeons Annual Meeting, Los Angeles, California: January 2013.

Mitral Valve Re-Repair for Systolic Anterior Motion. Society for Thoracic Surgeons Annual Meeting, Los Angeles, California: January 2013.

Outcomes in Asymptomatic Patients with Degenerative Mitral Valve Disease: A Case for Early Intervention. American Heart Association Annual Scientific Sessions, Los Angeles, California: November 2012.

Intraoperative Transesophageal Echocardiography for Predicting Systolic Anterior Motion after Mitral Valve Repair. European Association for Cardio-Thoracic Surgery Annual Meeting, Barcelona, Spain: October 2012.

Mitral Valve Re-Repair is feasible with Excellent Outcomes. European Association for Cardio-Thoracic Surgery Annual Meeting, Barcelona, Spain: October 2012.

Management of Systolic Anterior Motion after Mitral Valve Repair. AATS Mitral Conclave Meeting New York: May 2011.

Repair techniques for complex commissural prolapse in mitral valve repair. Presented at the Society for Thoracic Surgeons Annual Meeting, San Diego, California: Jaunary 2011.

Is a liberal transfusion strategy beneficial in improving functional outcomes and quality of life in older cardiac surgery patients: A Randomized Clinical Trial. Presented at the American Association for Thoracic Surgery Annual Meeting, Toronto, Ontario: May 2010.

A simplified technique of redo aortic valve replacement after previous bio-bentall procedure. Presented at the American Association for Thoracic Surgery Aortic Symposium New York, New York: April 2010.

Surgical management of primary systolic anterior motion of the mitral valve and hypertrophic obstructive cardiomyopathy: Presented at Society of Heart Valve Disease Meeting, New York: April 2010.

A randomized trial of a restrictive versus liberal blood transfusion strategy in elderly postoperative cardiac surgery patients: Presented at Canadian Cardiovascular Society Meeting, Edmonton, Alberta: October 2009.

A randomized trial of a restrictive versus liberal blood transfusion strategy in elderly postoperative cardiac surgery patients: Presented at UWO/McMaster University Annual Research Day, Hamilton Ontario Canada: May 6, 2009.

The Chest Window in the Treatment of Complex Intra-Thoracic Infections: Presented at Chest Conference Montreal, Quebec, Canada: 2005.

Using Plasma 13-HODE Levels to Assess Severity of Coronary Artery Disease in Patients Undergoing Coronary Artery Bypass Grafting: Presented at Canadian Cardiovascular Society Conference, Halifax, Nova Scotia, Canada: 2001.

INVITED SPEAKER PRESENTATIONS:

Complications after Mitral Valve Surgery. Association Physician Assistants in Cardiovascular Surgery Annual Meeting, Las Vegas, Nevada March 2016.

Principles of Cardiopulmonary Bypass. Department of Anesthesia Grand Rounds – Mount Sinai Health System, New York, NY October 2014.

Systolic Anterior Motion after Valve Repair. Cardiology Grand Rounds – White Plains Hospital, Westchester, NY: December 2013.

Should we change the Guidelines in Asymptomatic Mitral Regurgitation. American Heart Association Annual Scientific Sessions, Los Angeles, California: November 2013.

Predicting Systolic Anterior Motion after Mitral Valve Repair. Mount Sinai Heart Hospital Mitral Foundation Workshop, New York: November 2013.

Learning the Ross Procedure: Technical Pearls, Ross Master Class, Mount Sinai Hospital Workshop, New York: October 2013.

Predicting Systolic Anterior Motion: American Association for Thoracic Surgery (AATS) Mitral Conclave, New York: May 2013.

Systolic Anterior Motion after Mitral Valve Repair: An Algorithm, Mount Sinai Heart Hospital Mitral Foundation Workshop, New York: December 2011.

Techniques in Mitral Valve Re-Repair: 2011 Indian Association for Cardiothoracic Surgery Annual Meeting, Chennai, India: February 2011.

Ischemic Mitral Regurgitation: 2011 Indian Association for Cardiothoracic Surgery Annual Meeting, Chennai, India: February 2011.

Mitral Valve Regurgitation after the Repair: Department of Cardiac Surgery Research, University of Western Ontario, London, Canada: October 2010.

ABSTRACTS:

Varghese R., Fox S., Stitt L., Novick RJ. <u>Delayed ICU transfers: Are they harmful?</u> Canadian J Cardiology (suppl): 2009.

Varghese R., Brister SJ., Buchanan MR. <u>Plasma 13-HODE Levels, Cardiovascular Disease (CAD) Severity and Thrombotic Risk in Patients Undergoing Coronary Artery Bypass Grafting (CABG)</u>. Canadian J Cardiology 17 (suppl): 2001.

Varghese R., Inculet RI, Fortin D, Malthaner RA. <u>The Chest Window in the Treatment of Complex Intra-Thoracic Infections</u>. Chest 128:4 309S: 2005

EDITORIAL INVOLVEMENT:

Guest Editor: Journal of the American College of Cardiology **Guest Editor:** Journal of Thoracic and Cardiovascular Surgery

Guest Editor: Journal of Heart Valve Disease **Guest Editor:** Annals of Thoracic surgery

MEMBERSHIPS AND AFFILIATIONS:

2012-Present	European Associa	tion for Cardio	othoracic Surgery

2011-Present New York Society for Thoracic Surgery

2011- Present Society for Thoracic Surgery2002-Present Canadian Cardiovascular Society

2002-Present Royal College of Physicians and Surgeons of Canada

1999-Present Medical Ministry International

COMMUNITY & OTHER INTERESTS:

Black Belt Member: and Instructor: All Canadian Karate Academy
 Medical Missionary: Worked in India & Dominican Republic
 Provided surgery and medical care to underprivileged citizens
 Member, Interview Committee for Medicine Admissions

1997-'98
 U of T Student Administrative Council Board of Directors Member
 February 1997
 Participate in Harvard Model U.N. Conference, Harvard University