

CURRICULUM VITAE

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DATE & PLACE OF BIRTH: February 25, 1970; Beirut, Lebanon

EDUCATION:

09/88-06/91 American University of Beirut, Beirut, Lebanon, Bachelor of Science

07/91-06/95 American University of Beirut Medical School, Beirut, Lebanon,
Doctor of Medicine

07/95-06/96 Internship, General Surgery, Sinai Hospital of Detroit-Wayne State
University, Detroit, MI

07/96-06/00 Residency, General Surgery, North Shore University Hospital
N.Y.U. School of Medicine

07/00-06/02 Research Fellowship, Cardiac Surgery, Washington University
School of Medicine-Barnes Hospital, St. Louis, MO

07/02-06/05 Residency, Cardiothoracic Surgery, Vanderbilt University Medical
Center, Nashville, TN

07/05-09/05 Fellowship, Cardiac Surgery, Brigham and Women's Hospital-
Harvard School of Medicine Boston, MA

LICENSURE:

2000 Missouri State Medical License: 200165650 (inactive)

2001 American Board of Surgery: 46676

2002 Tennessee State Medical License: 3497001

2006 American Board of Thoracic Surgery: 7131

CERTIFICATION:

1998	Cardiac Valve Workshop, Texas Heart Institute, Houston, TX Sponsored by Sulzer CarboMedics Inc.
2000	Minimally Invasive Surgery Workshop, North Shore University Hospital at Syosset, Syosset, NY
2002	Advanced Trauma Life Support
2002	Advanced Cardiac Life Support
2005	Thoratec Assist Device Course University of Pittsburgh, Pittsburgh, PA
2012	MICS CABG course Sponsored by Medtronic Staten Island, NY
2013	MICS Valve surgery course sponsored by Medtronic Miami Beach, FL
2014	Homograft course sponsored by Cryolife Atlanta, GA
2018	Mitraclip (Abbott) training Ft. Lauderdale, FL
2018	Corevalve (Medtronic) TAVR percutaneous valve training Scottsdale, AZ
2019	Sapien (Edwards) TAVR percutaneous valve training New York, NY

ACADEMIC APPOINTMENTS:

10/05-06/06	Instructor in Surgery, Department of Cardiac Surgery Vanderbilt University Medical Center, Nashville, TN
01/06-06/06	Staff Surgeon, Cardiac Surgery Tennessee Valley Health Care System/Nashville VA
07/06-present	Assistant Professor, Department of Cardiac Surgery Vanderbilt University Medical Center, Nashville, TN
07/13-present	Section Chief, Cardiac Surgery Tennessee Valley Health Care System/Nashville VA

HOSPITAL APPOINTMENTS:

10/05-present Vanderbilt University Medical Center, Nashville, TN

01/06-present Tennessee Valley Health Care System/Nashville VA

PROFESSIONAL ORGANIZATIONS:

American Heart Association
Association of VA Surgeons
International Society for Heart and Lung Transplantation
Heart Valve Society
H. William Scott, Jr. Society
Nashville Surgical Society
Society of Thoracic Surgeons
Southern Thoracic Surgical Association
Tennessee Medical Association

PROFESSIONAL ACTIVITIES:

INTRAMURAL:

Vanderbilt University Medical Center

01/2006-present Resident Education Committee

As a faculty in the department of Cardiac Surgery, I am a member of the resident education committee that holds quarterly meetings to review teaching program goals and objectives plus an assessment of the effectiveness in achieving them.

05/16/2009 Vanderbilt Heart and Vascular Institute Strategic Retreat,
Committee Member

A VHVI faculty retreat focused on physician outreach and strategies for the future.

12/6/2013 Vanderbilt Heart and Vascular Institute Valve Bundle Retreat,
Committee Member

A VHVI retreat focused on implementing strategies aimed at improving patient care and outcomes while decreasing cost, in preparation for the CMS bundled payment plan for patients who undergo valvular cardiac surgery.

01/2018-present Thoracic Surgery Residency Clinical Competency Committee
Committee Member

As a teaching faculty in the Thoracic Surgery Residency Program at VUMC, I am a member of a selective faculty group tasked to assess every Thoracic Surgery resident in a variety of arenas, such as medical knowledge and technical skills. Individual residents are evaluated using the milestones system, which provides a framework for the assessment of resident development in key dimensions of competency in adult cardiac, thoracic, and congenital cardiac surgery. Grades and objective assessments are compiled and submitted to the Accreditation Council for Graduate Medical Education (ACGME).

05/29/2018 Vanderbilt Heart and Vascular Institute Strategic Retreat,
Committee Member

A VHVI faculty retreat focused on expanding physician outreach on the state and national level.

Tennessee Valley Health Care System/Nashville VA

01/2006-present Tissue and Transfusion Committee, Committee member

A VA peer-review program that addresses transfusion practices for all aspects of blood and blood components. The Transfusion Committee reviews ordering practices, adverse events, blood administration policies, wastage and utilization and appropriateness of use throughout the entire institution.

06/2008-present Head, Minimally Invasive Mitral Valve Surgery Program

The first of its kind at any VA hospital nationwide, I established a minimally invasive mitral valve surgery program at the Nashville VA that has sustained excellent results over the last decade. With the mentorship of one of the foremost experts in the field (Dr. Michael Petracek), this program has maintained its success in patient care and has simultaneously allowed younger faculty surgeons to learn the skills and techniques of this new surgical platform. The program has received accolades nationally through the TV magazine "The American Veteran" in 2009: https://www.youtube.com/watch?v=yB6zE5_1wPc

01/2013-present Surgical Quality Workgroup, Committee Member

Monthly meeting focused on improving surgical outcomes and length of stay at the Nashville VA hospital, with focus on improved patient care. This approach fosters greater transparency and accountability through an institution-wide collaboration with other departments.

06/2013-present Chief of Cardiac Surgery, TVHS

As of 2013, I have spearheaded the section of cardiac surgery at the Nashville VA which has witnessed tremendous success with regards to excellent outcomes, increased breadth of cardiac surgical procedures, lower wait times and shorter waiting lists of patients. Simultaneously, the VA cardiac surgery rotation is the premiere educational experience for the Vanderbilt cardiac surgery residents.

07/2018-present Institutional Review Board, Committee Member

As of 2018, I have been an active member in the Nashville VA Institutional Review Board (IRB), which is the administrative body established to protect the rights, welfare, and privacy of United States Veterans recruited to participate in research activities conducted under the auspices of the VA. The IRB has the authority to approve, disapprove, monitor, and require modifications in all research activities that fall within its jurisdiction.

EXTRAMURAL:

02/2016-04/2018 Research Advisory Council for the Solve ME/CFS Initiative

I was a member of the Research Advisory Council (RAC) of the Solve ME/CFS Initiative (SMCI). Founded in 1987, the SMCI has been the leading national organization focused on myalgic encephalomyelitis (ME), commonly referred to as chronic fatigue syndrome (CFS). It is a debilitating disease with no cures and has been associated with a host of cardiovascular impairments. The goals of the SMCI are: (1) make this disease understood, diagnosable, and treatable; (2) engage the entire ME/CFS community in research; (3) accelerate the discovery of safe and effective treatments; (4) expand funding toward a cure. The role of the RAC members is to provide strategic advice and scientific consultation to the organization, whose core belief is that the path towards effective cures is created

by the pursuit of innovative and rigorous biomedical research as well as data-driven, targeted therapy.

Editorial Activities:

Ad Hoc Reviewer:

09/06-present *Journal of Thoracic and Cardiovascular Surgery*

09/06-present *Annals of Thoracic Surgery*

09/06-present *Journal of Heart Valve Disease*

09/06-present *Journal of the American Heart Association*

AWARDS:

College

1991 Dean's Honor List American University of Beirut

Medical School

1995 Dean's Honor List American University of Beirut Medical School

Post-Residency Awards & Honors

2001 The William J. Von Liebig Foundation Award for Excellence In Vascular Surgical Research. Second place for Sequential changes in mouse aortic wall gene expression during the development of elastase-induced abdominal aortic aneurysm.

2002 The Walton C. Lillehi Foundation (finalist) at the AATS 2002 for Ascending thoracic aortic aneurysms and abdominal aortic aneurysms exhibit and altered pattern of gene expression reflecting chronic inflammation and elevated production of extracellular matrix proteinases.

2003 The Charles. C. Guthrie Award (winner) at the 27th annual meeting of the Midwestern Vascular Society for Alteration in Gene Expression Associated with the Transition from Normal to Aneurysmal Aorta: A Study of Type III Thoracoabdominal Aortic Aneurysms.

TEACHING ACTIVITIES:

01/2006-present Committee Chair, Practice Management Improvement and Quality Improvement Conference, TVHS

Monthly review cumulative mortalities and morbidities in the section of Cardiac Surgery at the Nashville VA. Detailed review of adverse outcomes and complications, with main objective to identify medical errors, modify behavior and judgment based on previous experiences, prevent repetition of errors leading to complications, and identify areas of improvement. They are particularly important for identifying systems issues which affect patient care.

01/2006-present Course Director, the Cardiac Surgery Heart Conference, TVHS

A weekly hour-long joint conference between the section of Cardiac Surgery and the section of Cardiology at the Nashville VA. Attendees include cardiac surgery fellows, cardiology fellows, general surgery residents and interns, as well as rotating medical students. Detailed review of complex cases with review of the pertinent cardiac catheterization and echocardiographic images. Elaborate discussions regarding either medical or surgical management.

01/2006-present Thoracic Surgery Residency Mock Oral Examinations, VUMC
Examiner

I am an examiner the biannual departmental mock oral examinations (MOE) that mimic the certification examination for the American Board of Thoracic Surgery. Standardized MOEs are useful educational adjuncts to assess trainees' knowledge and readiness for certification exams. MOE scores are reviewed, and data are available for curriculum development and trainee performance evaluations and feedback.

01/2006-present Thoracic Surgery Residency Journal Club, VUMC
Faculty/Ad Hoc Organizer

I am a faculty/ad hoc organizer of the quarterly Thoracic Surgery Residency Journal Club, which is a longstanding tradition in residency training. As faculty organizer, I collaborate with residents on article selection and preparation of the presentation. In addition to discussion, review of current literature, and development of skills for evaluating medical literature, the goal of our journal club is to improve patient care by incorporating evidence into practice.

07/2013-present Thoracic Surgery Directors Association (TSDA) Curriculum, VUMC Faculty

A weekly hour-long reading from the Thoracic Surgery Directors Association (TSDA) Curriculum. The faculty member leads an interactive discussion that emphasizes elements vital to clinical practice, and relevant for the written examination of the American Board of Thoracic Surgery. The two-year version of the curriculum covers the full spectrum of Cardiac, Thoracic, and Congenital Cardiothoracic disease, as well as advanced topics in Critical Care.

06/2017-present Course Director, the Post-Operative Cardiac Surgery Patient

A semi-annual hour-long didactic lecture dedicated to the surgical intensive care unit (SICU) at TVHS. Attendees include SICU nurse practitioners (NP) and bedside nurses (RN). Detailed review of basic cardiac anatomy and physiology, fluid and vasopressor management, Swan-Ganz catheter and intra-aortic balloon pump (IABP) management. Elaborate discussions as well as hands-on sessions that deal with the emergency open-chest cart in the SICU.

06/2017-present Course Director, Vanderbilt Cardiac Surgery Complex Valvular Disease Conference.

A weekly CME accredited Cardiac Surgery Valve conference that includes faculty and fellows from the departments of Cardiac Surgery and Cardiology. These hour-long sessions provide a detailed review of complex cardiac valvular disease clinical cases with emphasis on pre-operative decision making. Furthermore, I supervise the rotating cardiac surgery resident on preparing pertinent presentations that are didactic in nature and focused on the review of the most recent and up-to-date literature pertaining to the cases being discussed.

06/2017-present Vanderbilt Structural Heart Disease conference, Committee Member

A weekly hour-long meeting of the multidisciplinary "Heart Team" at the Vanderbilt Heart and Vascular Institute, which is the cornerstone of modern cardiovascular care for structural heart disease. Its main goal is to facilitate the management of patients with complex cardiovascular disease in the light of the rapid evolution of new strategies of care, an increasing amount of scientific evidence-based data and appropriate use criteria. The "Heart Team" consists of cardiovascular surgeons, interventional cardiologists, structural heart disease experts, and imaging specialists.

CONTINUING MEDICAL EDUCATION:

INVITED SPEAKER:

- 03/13 *“Altered Gene Expression Profiles of Degenerative Mitral Valve Disease”* (presented at the Annual Collaborative Research Forum, Phoenix, AZ).
- 04/13 *“Distinct Remodeling of the Mitral Valve Leaflets in Barlow’s Disease”* (presented at the Cardiovascular Research Rounds, Vanderbilt University Medical Center, Nashville TN).
- 04/14 *“Mitral Valve Surgery with a Right Thoracotomy Approach”* (presented at the American Medical Center/American Heart Institute, Nicosia, Cyprus).
- 05/17 *“Minimally Invasive Mitral Valve Surgery Without the Cross Clamp: The Vanderbilt Experience”* (presented at the Cardiac Surgery Fellow Rounds at the University of Kentucky School of Medicine, Lexington, KY).
- 05/17 *“Minimally Invasive Mitral Valve Surgery with Hypothermic Fibrillatory Arrest”* (presented at the Cardiology Fellows Rounds at Vanderbilt University Medical Center, Nashville, TN).
- 06/17 *“Chronic Ischemic Mitral Regurgitation”* (presented at the Cardiology Fellows Rounds at Vanderbilt University Medical Center, Nashville, TN).
- 08/17 *“Minimal Access Mitral Valve Surgery”* (presented at the Cardiac Surgery Fellow Rounds at the Ohio State University Medical Center, Columbus, OH).
- 10/17 *“A Decade’s Experience with Minimally Invasive Mitral Valve Surgery Without the Cross Clamp”* (presented at the Cardiac Surgery Fellow Rounds at the University of Cincinnati School of Medicine, Cincinnati, OH).
- 06/18 *“Severe Chronic Secondary Mitral Regurgitation: Replacement for All?”* (presented at the 29th Annual American Society of Echocardiography Scientific Session, Nashville TN).
- 06/18 *Simulated Heart Valve Team: Mitral Valve Interventions* (moderator at the 29th Annual American Society of Echocardiography Scientific Session, Nashville, TN)
- 02/19 *“10-year Experience with Minimally Invasive Mitral Valve Surgery Without The Cross Clamp: The Vanderbilt Experience”* (presented at the Cardiology Grand Rounds at Vanderbilt University Medical Center, Nashville, TN).

06/20 *"Evaluation and Treatment of Secondary Mitral Regurgitation"*
(panelist/moderator at the Vanderbilt Virtual Heart Valve Conference
Series, Nashville, TN).

SURGICAL EDUCATION:

JUNIOR FACULTY DEVELOPMENT:

As a senior faculty member, I mentor junior faculty recruits to the department of Cardiac Surgery. It is a relationship of equals characterized by trust, sharing of expertise, moral support, and reliability. This type of professional bonding with younger faculty fosters insight and expands growth opportunities, thus facilitating their transition from recent graduates to independent surgeons and contributing to the success of our department within the organization.

07/2014-06/2018	Clayton Kaiser, MD
07/2016-06/2017	Dan Choi, MD
07/2020	William McMaster, MD

SUPERVISION AND TRAINING OF CARDIAC SURGERY RESIDENTS:

I have daily interactions/supervisions with cardiac surgery faculty, fellows and residents, general surgery residents, cardiology fellows, and medical students.

2007	Robert Dubose, M.D.
2008	Tammy Baxter, M.D.
2009	Jared L. Antevil, M.D.
2010	Alexandros N. Karavas, M.D.
2011	Daniel G. Cuadrado, M.D.
2014	Aaron L. Hoffman, M.D.
2015	Elena M. Ziarnik, M.D.
2017	Franklin Todd, M.D. Timothy Danish, M.D.
2018	Denis Gilmore, M.D. Feiran Lou, M.D.
2019	John Evans, M.D, Michael Archer, M.D.
2020	William McMaster, M.D. Tyler Zorn, M.D.
2021	Donald Moe, M.D.

SIMULATED “BOOT CAMP” TRAINING OF CARDIAC SURGERY RESIDENTS:

A strategic approach is crucial to facilitate the acquisition of surgical skills outside the operating room. For this reason, I have been a regular participant at the Cardiac Surgery “Boot Camp”, which is a month-long mandatory rotation for new cardiac surgery residents at VUMC. It is a simulation-based learning environment that trains new residents in the skills of microvascular techniques that are transferable to the operative setting. In addition, I have participated in industry sponsored heart valve courses that were tailored specifically to our residents. This experience has significantly increased my ease and comfort into supervising and teaching our trainees intra-operatively during complex cardiac valvular surgery procedures.

SUPERVISION OF VUSM STUDENTS ROTATION IN CARDIAC SURGERY:

2006-present Vanderbilt Medical Students’ rotation on the Cardiac Surgery Service is an integral part of VUSM core curriculum. Students make rounds on pre and post-operative patients, assist in the operating room, and participate in clinical conferences.

SUPERVISION OF VU STUDENTS ROTATION IN CARDIAC SURGERY:

2019-present A mentorship opportunity sponsored by Vanderbilt University's chapter of Alpha Epsilon Delta, the health pre-professional honor society, which coordinates a shadowing program for undergraduate students who will potentially gain an invaluable glimpse into the medical world.

SUPERVISION OF COLLEGE STUDENTS MEDICAL SUMMER INTERNSHIP:

2012-present A medical summer internship sponsored by Dialysis Clinic, Inc (DCI). It entails shadowing physicians on rounds in the hospital and in the operating rooms at VUMC, aiming at exposing college students to hospital and outpatient environments, as well as to specific areas of medicine such as surgery and clinical research. These experiences are designed to help students decide whether to pursue a career in medicine.

SUPERVISION OF HIGH SCHOOL STUDENTS IN THE VA VOLUNTARY SERVICE:

2014-present A medical summer internship sponsored by Tennessee Valley Health Care System (TVHS). The VA Voluntary Service Program offers high school students opportunities for exploring health career

options, and qualifying to be nominated for multiple college scholarships.

RESEARCH:

PRINCIPAL INVESTIGATOR:

- Gene Expression Profile of Mitral Valve Regurgitation.

Basic sciences bench research focused on the genetics and molecular pathophysiology of degenerative and ischemic mitral valve disease.

ACTIVE FUNDING: Vanderbilt CTSA grant UL1 RR024975 from NCRR/NIH (\$38814.50).

- Cardiac Tissue Biobank.

With collaboration of the Cardiology Core laboratory and Tennessee Donor Services (TDS), I have created a considerable biorepository of both normal and diseased human cardiac tissues. Procurement protocols were designed to generate excellent samples. Diseased biospecimens were procured at Vanderbilt; normal cardiac tissues were procured from un-matched donors. Our team has established numerous collaborations with multiple research laboratories at Vanderbilt, and we offer a broad range of both frozen and formalin fixed paraffin embedded (FFPE) cardiac biospecimen of the highest quality. These biospecimen are readily available, well-characterized cardiac tissues and serums for molecular and genomic research.

ACTIVE FUNDING: Department of Cardiac Surgery, VUMC (\$35,000).

- Collaborators:

1. David Merryman, Ph.D. Department of Biomedical Engineering, Vanderbilt University.
Project: Cadherin-11 role in calcific aortic valve disease.
2. Claus Schneider, Ph.D. Department of Medicine, VUMC. Project: Role of Cox-2 in atherosclerosis.
3. Anna Hemnes, M.D. Department of Medicine, VUMC.
Project: Chronic thromboembolic pulmonary arterial hypertension.

4. Thomas DiSalvo, M.D. Department of Cardiology, VUMC.
Project: Gene expression of cardiac myocytes in right ventricular failure.
5. Douglas Sawyer, M.D. Department of Cardiology, VUMC.
Project: Role of Neuregulin-1 in heart failure.
6. Daniel Lenihan, M.D. Department of Cardiology, VUMC. Project: Cardiac amyloidosis.
7. Richard Gumina, M.D. Department of Cardiology, VUMC. Project: Ischemic-reperfusion injury in ischemic cardiomyopathy.
8. Colleen Brophy, M.D. Department of Surgery, VUMC.
Project: Human saphenous vein graft preservation.
9. Celestine Wanjalla, M.D. Department of Medicine, VUMC.
Project: Role of CMV-specific immune responses in cardiovascular atherosclerotic disease.

INVESTIGATOR:

- INNOVATE-HF trial (2014). *A multinational, randomized trial involving 85 centers to assess the safety and efficacy of vagal nerve stimulation (VNS) among patients with HF and a reduced ejection fraction.*
- OCS Heart EXPAND trial (2018). *An international trial to evaluate the safety and effectiveness of the Portable Organ Care System (OCS) in preserving donor hearts that do not meet criteria for transplantation.* Trial Sponsor: Transmedics Inc, Andover, MA.
- OCS Heart EXPAND CAP trial (2019). *A prospective single-arm trial to obtain evidence to evaluate the safety and effectiveness of the Portable Organ Care System (OCS) heart for preserving, resuscitating and assessing expanded criteria donor hearts for transplantation.* Trial Sponsor: Transmedics Inc, Andover, MA.
- APPOLO trial. *A prospective randomized trial investigating a new device called the Intrepid Transcatheter Mitral Valve Replacement (TMVR) system in patients with severe symptomatic mitral regurgitation.* Trial Sponsor: Medtronic Inc Minneapolis, MN.
- CLASP TR trial: *A prospective, multicenter, randomized, controlled pivotal trial to evaluate the safety and effectiveness of transcatheter tricuspid valve repair with the Edwards PASCAL Transcatheter Valve Repair System and optimal*

medical therapy (OMT) compared to OMT alone in patients with tricuspid regurgitation. Trial Sponsor: Edwards Lifesciences, Irvine, CA.

GRANTS – Closed

Co-Investigator: Molecular imaging and Systemic Biomarkers of Risk in Abdominal Aortic Aneurysms. *Research is focused on the risk of rupture of abdominal aortic aneurysms and the potential predictive value of serum biomarkers.*

FUNDING: VA Merit Award Molecular imaging and systemic biomarkers of risk in abdominal aortic aneurysms. PI. Uchechukwu Sampson, M.D.

RESEARCH SUPERVISION: MENTORED RESEARCH FELLOWS AND STUDENTS

- 07/16-06/18 Renaldo Williams, M.D.
Project: Long term outcomes after minimally invasive mitral valve surgery under hypothermic fibrillatory arrest.
- 07/18-06/19 Neal Foley, D.O.
Project: Impact of BMI on minimally invasive mitral valve surgery outcomes in degenerative and ischemic mitral valve disease.

Project: Bleeding and Clinical Outcomes in CABG patients.
- 11/18-present Alexandra Williams, MSIII
Project 1: Genetic variants in the ADAMTS5 and ADAMTS9 gene families and their involvement in valvular disease. Bench to bedside study using the BioVU database investigating the genetic variants of ADAMTS5 and 9 gene expression and their contribution to the development of degenerative mitral valve disease. VICTR funding approved.

Project 2: Genetic fingerprinting of mitral valve leaflets in ischemic mitral valve Disease (manuscript in preparation).
- 06/19-present Ramakrishanan Abinaya
Project: Review of Vanderbilt's 10-year experience with isolated minimally invasive tricuspid valve surgery. Winner of the 2020 prestigious Goldwater Award.
<https://goldwater.scholarsapply.org/2020-goldwater-scholars-by-institution-state/>
- 07/2019-present Zaki Rahman, M.D.

Project: Risk factors for increased length of stay after mitral valve surgery.

Project: Long term outcomes with the Freestyle stentless valve.

PUBLICATIONS:

PEER-REVIEWED JOURNALS

1. Cooley DA, Lopez R, **Absi TS**. Apicoaortic conduit for left ventricular outflow tract obstruction: revisited. *Ann Thorac Surg*. 2000 May;69(5):1511-4. doi: 10.1016/s0003-4975(00)01242-x. PMID: 10881832.
2. Ambrose G, Barrett LO, Angus GL, **Absi TS**, Shaftan GW. Main Pulmonary artery laceration after blunt trauma: accurate preoperative diagnosis. *Ann Thorac Surg*. 2000 Sep;70(3):955-7. doi: 10.1016/s0003-4975(00)01530-7. PMID: 11016340.
3. Maniar HS, Sundt TM, Barner HB, Prasad S, Peterson L, **Absi TS**, Moustakidis P. Effect of target stenosis and location on radial artery graft patency. *J Thorac Cardiovasc Surg*. 2002 Jan;123(1):45-52. doi:10.1067/mtc.2002.118686. PMID: 11782755.
4. Thompson RW, **Absi TS**, Tung WS, Gene expression profiling of abdominal aortic aneurysms. *J Vasc Surg*. 2002 Feb;35(2):403-4. doi: 10.1067/mva.2002.121070. PMID: 11854744.
5. Moustakidis P, Maniar HS, Cupps H, **Absi TS**, Zheng J, Sundt T, Guccione TM, Pasque MK. Altered left ventricular geometry changes the border zone temporal distribution of stress in an experimental model of left ventricular aneurysm: a finite element model study. *Circulation*. 2002 Sep 24;106(12 Suppl 1):1168-75. PMID: 12354728.
6. **Absi TS**, Sundt TM, Tung W, Moon M, Lee J, Damiano R, Thompson RW. Altered patterns of gene expression distinguishing ascending aortic aneurysms from abdominal aortic aneurysm: complementary DNA expression profiling in the molecular characterization of aortic disease. *J Thorac Cardiovasc Surg*. 2003 Aug;126(2):344-57; discussion 357. doi: 10.1016/s0022-5223(02)73576-9. PMID: 12928630.
7. **Absi TS**, Sundt TM, Camillo C, Shuessler RB, Gutierrez FR. Penetrating atherosclerotic ulcers of the descending thoracic aorta may be managed expectantly. *Vascular*. 2004 Sep-Oct;12(5):307-11. doi: 10.1258/rsmvasc.12.5.307. PMID: 15768479.
8. Van-Vickle Chavez SJ, Tung WS, **Absi TS**, Ennis TL, Mao D, Cobb JP,

- Thompson RW. Temporal changes in mouse aortic wall gene expression during the development of elastase-induced abdominal aortic aneurysms. *J Vasc Surg*. 2006 May;43(5):1010-20. doi: 10.1016/j.jvs.2006.01.004. PMID: 16678698.
9. Umakanthan R, Leacche M, Petracek MR, Kumar S, Solenkova N, Kaiser CA, Greelish JP, Balaguer JM, Ahmad RM, Ball SK, Hoff SJ, **Absi TS**, Kim BS, Byrne JG. Safety of minimally invasive mitral valve surgery without cross clamp. *Ann Thorac Surg*. 2008 May;85(5):1544-9; discussion 1549-50. doi: 10.1016/j.athoracsur.2008.01.099. PMID: 18442535.
 10. Umakanthan R, Leacche M, Petracek MR, Solenkova NV, Eagle SS, Thompson A, Ahmad RM, Greelish JP, Ball SK, Hoff SJ, **Absi TS**, Balaguer JM, Byrne JG. Minimally invasive right lateral thoracotomy without aortic cross-clamping: an attractive alternative to repeat sternotomy for reoperative mitral valve surgery. *J Heart Valve Dis*. 2010 Mar;19(2):236-43. PMID: 20369510.
 11. Michael R. Petracek, Marzia Leacche, Natalia Solenkova, PhD, Ramanan Umakanthan, Rashid M. Ahmad, Stephen K. Ball, Steven J. Hoff, **Tarek S. Absi**, Jorge M. Balaguer, and John G. Byrne. Minimally Invasive Mitral Valve Surgery Expands the Surgical Options for High-Risks Patients. *Ann Surg*. 2011 Oct;254(4):606-11. doi: 10.1097/SLA.0b013e3182300399. PMID: 21946219.
 12. St. Julien J, Nesbitt JC, **Absi TS**, Ahmad RM, Grogan EL, Balaguer JM. Tissue-Based Coronary Surgery Simulation: Medical Student Deliberate Practice Can Achieve Equivalency to Senior Surgery Residents. *J Thorac Cardiovasc Surg*. 2013 Jun;145(6):1453-8; discussion 1458-9. doi: 10.1016/j.jtcvs.2013.02.048. Epub 2013 Mar 15. PMID: 23499474.
 13. Hemnes AR, Brittain EL, Trammell AW, Fessel JP, Austin ED, Penner N, Maynard KB, Gleaves L, Talati M, **Absi T**, Disalvo T, West J. Evidence for Right Ventricular Lipotoxicity in Heritable Pulmonary Arterial Hypertension. *Am J Respir Crit Care Med*. 2014 Feb 1;189(3):325-34. doi: 10.1164/rccm.201306-1086OC. PMID: 24274756; PMCID: PMC3977729.
 14. Brittain EL, Goyal SK, Sample MA, Leacche M, **Absi TS**, Papa F, Churchwell KB, Ball S, Byrne JG, Maltais S, Petracek MR, Mendes L. Minimally invasive fibrillating mitral valve replacement for patients with advanced cardiomyopathy: A safe and effective approach to treat a complex problem. *J Thorac Cardiovasc Surg*. 2014 Nov;148(5):2045-2051.e1. doi: 10.1016/j.jtcvs.2013.10.062. Epub 2013 Dec 9. PMID: 24332110; PMCID: PMC4050032.
 15. Di Salvo TG, Yang KC, Brittain E, **Absi T**, Maltais S, Anna Hemnes. Right Ventricular Myocardial Biomarkers in Human Heart Failure. *J Card Failure*. 2015 May;21(5):398-411. doi: 10.1016/j.cardfail.2015.02.005. Epub 2015 Feb 26. PMID: 25725476; PMCID: PMC6482959.
 16. Di Salvo, TG, Guo Y, Su YR, Clark T, Brittain E, **Absi T**, Maltais S, Hemnes A.

- Right Ventricular Long Noncoding RNA Expression in Human Heart Failure. *Pulm Circ.* 2015 Mar;5(1):135-61. doi: 10.1086/679721. PMID: 25992278; PMCID: PMC4405709.
17. Wise ES, Hocking KM, Eagle S, **Absi T**, Komalavilas P, Cheung-Flynn J, Brophy C. Preservation solution impacts physiologic function and cellular viability of human saphenous vein graft. *Surgery.* 2015 Aug;158(2):537-46. doi: 10.1016/j.surg.2015.03.036. Epub 2015 May 21. PMID: 26003912; PMCID: PMC4492846.
 18. Su YR, Chiusa M, Brittain E, Hemnes AR, **Absi T**, Lim CC, Di Salvo TG. Right Ventricular Protein Expression Profile in End-Stage Heart Failure. *Pulm Circ.* 2015 Sep;5(3):481-97. doi: 10.1086/682219. PMID: 26401249; PMCID: PMC4556499.
 19. Rath R, Lee JB, Tran TL, Lenihan SF, Galindo CL, Su YR, **Absi T**, Bellan LM, Sawyer DB, Sung HJ. Biomimetic microstructure morphology in electrospun fiber mats is critical for maintaining healthy cardiomyocyte phenotype. *Cell Mol Bioeng.* 2016 Mar;9(1):107-115. doi: 10.1007/s12195-015-0412-9. Epub 2015 Sep 8. PMID: 28042345; PMCID: PMC5193097.
 20. Zhang B, Novitskaya T, Wheeler D, Xu A, Chepurko E, Huttinger R, He H, Varadharaj S, Sweier J, Song Y, Xu M, Harrell F, Su YR, **Absi T**, Kohr M, Ziolo M, Roden D, Shaffer C, Galindo C, Wells Q, Gumina R. *Kcnj11* Ablation Is Associated With Increased Nitro-Oxidative Stress During Ischemia-Reperfusion Injury: Implications for Human Ischemic Cardiomyopathy. *Circ Heart Fail.* 2017 Feb;10(2):e003523. doi: 10.1161/CIRCHEARTFAILURE.116.003523. PMID: 28209764; PMCID: PMC5319711.
 21. **Absi T**, Galindo C, Su YR, Gumina R, Atkinson J, Guo Y, Tomasek K, Sawyer DB, Byrne JG, Shah A, Petracek MK. Altered ADAMTS5 Gene Expression and Versican Proteolysis: A Possible Etiology of Barlow's Disease. *Ann Thorac Surg.* 2018 Apr;105(4):1144-1151. doi: 10.1016/j.athoracsur.2017.11.035. Epub 2017 Dec 15. PMID: 29248417.
 22. Williams R, Foley M, Vyas R, Kertai M, Balsara K, Petracek M, Shah A, **Absi T**. Predictors of Stroke after Minimally Invasive Mitral Valve Surgery Without the Cross-Clamp. *Semin Thorac Cardiovasc Surg.* 2020 Spring;32(1):47-56. doi: 10.1053/j.semtcvs.2019.09.001. Epub 2019 Sep 23. PMID: 31557512.
 23. Halliday S, Matthews D, Talati M, Austin E, Su YRS, **Absi T**, Fortune N, Gailani D, Matafonov A, West J, Hemnes A. A Multifaceted Investigation into Molecular Associations of Chronic Thromboembolic Pulmonary Hypertension Pathogenesis. *JRSM Cardiovasc Dis.* 2020 Feb 13;9:2048004020906994. doi: 10.1177/2048004020906994. PMID: 32110389; PMCID: PMC7019411.
 24. Dunham W, Weinger M, Slagle J, Shah S, **Absi T**, Shotwell M, Beller M, Thomas E, Vnencak-Jones C, Freundlich R, Wanderer J, Sandberg W, Kertai M. CYP2D6

Genotype-guided Metoprolol Therapy in Cardiac Surgery Patients: Rationale and Design of the Pharmacogenetic-guided Metoprolol Management for Postoperative Atrial Fibrillation in Cardiac Surgery (PREEMPTIVE) Pilot Study. *J Cardiothorac Vasc Anesth.* 2020 Jan;34(1):20-28. doi: 10.1053/j.jvca.2019.09.003. Epub 2019 Sep 10. PMID: 31606278; PMCID: PMC6911825.

25. Haddad D, Shipe M, **Absi T**, Danter M, Vyas R, Levack M, Shah A, Grogan E, Balsara K. Getting Ready for Bundled Payments: The Impact of Complications Post-CABG on Internal Costs. (*in press, Annals of Thoracic Surgery*).
26. Ramakrishnan A, Zheng C, Fontes ML, Lombard FW, Woolard AA, Shi Y, Shotwell MS, Billings FT, Pretorius M, Wanderer JP, Vyas R, **Absi T**, Shah S, Kertai M. Mean Platelet Volume and Cardiac-Surgery–Associated Acute Kidney Injury: A Retrospective Study. (*under review, Canadian Journal of Anesthesia*).
27. Lopez MG, Shotwell MS, Morse J, Liang Y, Wanderer JP, **Absi T**, Shah S, Hernandez A, Billings FT. Intraoperative venous congestion and acute kidney injury in cardiac surgery: an observational cohort study. (*under review, Journal of Critical Care*).
28. Williams A, Galindo C, Su YR, Gumina R, Atkinson J, Tomasek K, Petracek MK, Shah AS, **Absi T**. Gene Expression Profiling of Ischemic Mitral Valve Disease. (*in preparation*).

BOOK CHAPTERS

1. Mechanical/Bioprosthetic Mitral Valve Replacement. Tomas Guddhjartsenn, **Tarek S. Absi**, Sari Aranki. *Cardiac Surgery in the Adult*. 3rd Edition. McGraw-Hill 2007.

ABSTRACTS

1. Tung WS, Ennis TL, **Absi TS**, Thompson RW. Gene expression in murine abdominal aortic aneurysms. (Presented at the Arteriosclerosis, Thrombosis, and Vascular Biology meeting, ATVB, Dallas, TX, Jan 2001).
2. Lee KJ, **Absi TS**, Thompson RW. Cytokine induced statement of MMP-13 in vascular smooth muscle cells. (Presented at the Arteriosclerosis, Thrombosis and Vascular Biology meeting, ATVB, Dallas, TX, Jan 2001).
3. Moustakidis P, Maniar HS, Cupps B, **Absi TS**, Zheng J, Sundt T, Guccione TM, Pasque M. Altered left ventricular geometry changes the border zone distribution of stress in an experimental model of left ventricular aneurysm: A finite

- element model study (Presented at the American Heart Association meeting, Chicago, IL, November 2001).
4. Maniar H, Barner H, Prasad S, **Absi TS**, Moustakidis P, Yi Zhang, Baily M, Sundt T. Impact of target stenosis and location on radial artery graft patency. (Presented at the American Association of Thoracic Surgery meeting, AATS, Toronto, ON, 2001).
 5. **Absi TS**, Moustakidis P, Kanaan S, Camillo C, Gutierrez F, Sundt T. Penetrating atherosclerotic aortic ulcers may be managed expectantly. (Presented at the American Heart Association meeting, AHA, Dallas TX, Jan 2001).
 6. Moustakidis P, Cupps B, Scher R, Maniar H, **Absi TS**, Prasad S, Sundt T, Pasque M. Systolic dysfunction persists beyond isovolumic systole in the border zone of an ovine model of left ventricular aneurysm. (Presented at the American Heart Association meeting, AHA, Chicago, IL, November 2002).
 7. **Absi TS**, Moon MR, Sundt TM, Thompson, RW. Ascending aortic aneurysms and chronic inflammation: a gene array study. (Presented at the 8th Aortic Surgery Symposium, New York, NY April 2002).
 8. **Absi TS**, Cupps B, Moustakidis P, De Las Fuentes L, Kouchoukous NT, Davila VG, Pasque MK. Three-dimensional MRI reveals isolated long axis strain abnormalities in patients with chronic aortic insufficiency. (Presented at the American Heart Association meeting, AHA, Chicago, IL 2002).
 9. Moustakidis P, Cupps B, **Absi TS**, Maniar H, Prasad S, Sundt T, Pasque M. Postoperative normalization of stress in patients with aortic insufficiency: Ross procedure versus St. Jude mechanical aortic valve prosthesis. (Presented at the American College of Cardiology meeting, ACC, Chicago, IL 2003).
 10. Pomerantz BJ, **Absi TS**, Cupps B, Moustakidis P, Pasque MK. Current referral for aortic valve replacement in patients with aortic insufficiency does not recover left ventricular strain. (Presented at the AHA, Orlando, FL 2003).
 11. **Absi TS**, Moustakidis P, Cupps B, De Las Fuentes L, Davila VG, Pasque MK. Aortic valve replacement for aortic insufficiency depresses left ventricular strain despite normalization of left ventricular diameter. (Presented at the AHA, Orlando, FL 2003).
 12. Kumar S, Petracek MR, Greelish JP, Ahmad RA, Balaguer JM, **Absi TS**, and Byrne JG. Minimally Invasive Mitral Valve Surgery. (Presented at the Australian Cardiac Surgery Meeting, Sydney 2006).
 13. St. Julien J, Nesbitt JC, **Absi TS**, Ahmad RA, Grogan EL, Balaguer JM. Tissue-Based Coronary Surgery Simulation: Medical Student Deliberate Practice Can

- Achieve Equivalency to Senior Surgery Residents. (Presented at the 38th Annual Meeting of the Western Thoracic Surgical Association, May 2012).
14. Brittain EL, Goyal S, Leacche M, **Absi TS**, Churchwell K, Mendes L, Byrne JG, Petracek MK. Minimally-Invasive Mitral Valve Replacement without Aortic Cross-Clamp is Safe in Patient with Severe Cardiomyopathy. (Presented at the American College of Cardiology meeting, Chicago, IL, May 2012).
 15. Brittain EL, Goyal S, Leacche M, **Absi TS**, Churchwell K, Mendes L, Byrne JG, Petracek MK. Minimally Invasive Mitral Valve Replacement without Aortic Cross-clamp is Durable and Halts Progression of Left Ventricular Remodeling in Patients with Advanced Heart Failure. (Presented at the American College of Cardiology meeting, Chicago, IL, May 2012).
 16. **Tarek S Absi**, Cristi L Galindo, Michael R Petracek, Daniel J Lenihan, Marzia Leacche, Douglas B. Sawyer, John G. Byrne, Yan Ru Su. Distinct Remodeling of Mitral Valve Leaflets in Severe Myxomatous and Ischemic Mitral Regurgitation (Presented at the American Heart Association meeting, Los Angeles, CA, November 2012).
 17. Yan Ru Su, Manuel Chuisa, David B Friedman, **Tarek S Absi**, Chee Lim, Thomas G Di Salvo. Cardiac Contractile Protein Expression of the Right Ventricle in End Stage Human Heart Failure (Presented at the American Heart Association meeting, Los Angeles, CA, November 2012).
 18. **Tarek Absi**, Cristi Galindo, Yan Ru Su, Clayton Kaiser, Ashish Shah, Richard Gumina, Michael Petracek. Altered ADAMTS5 Gene Expression and Versican Proteolysis: A Possible Etiology of Barlow's Disease (Presented at the Society of Thoracic Surgeons meeting, Houston, TX, January 2017).
 19. Balaguer J, **Absi T**. Stroke reduction in coronary surgery using a simple intra-operative strategy. (Presented at the STS/EACTS Latin America Cardiovascular Surgery Conference, Cartagena, Columbia, March 2018).
 20. **Absi T**, Galindo C, Gumina R, Tomasek K, Foshage A, Groark C, Atkinson J, Balsara K, Kaiser C, Shah S, Su, YR. Altered SERCA2a Expression in Mitral Valve Lealets in Chronic Ischemic Mitral Regurgitation. (Presented at the 68th Annual meeting of the American College of Cardiology meeting, ACC, New Orleans, LA, March 2019).
 21. Foley N, Vyas R, Williams R, Shi H, Balsara K, Kaiser C, Petracek M, Shah S, **Absi T**. Obesity Does Not Predict Long Term Outcomes in Minimally Invasive Mitral Valve Surgery for Degenerative Mitral Valve Disease. (Presented at the 68th Annual Meeting of the American College of Cardiology meeting, ACC, New Orleans, LA, March 2019).

22. Foley N, Vyas R, Williams R, Shi H, Balsara K, Kaiser C, Petracek M, Shah S, **Absi T**. Obesity is Predictive of Worse Long-Term Survival in Minimally Invasive Mitral Valve Surgery for Ischemic Mitral Valve Regurgitation. (Presented at the Mitral Conclave, AATS, New York, NY, May 2019).
23. Haddad D, Shipe M, **Absi T**, Danter M, Vyas R, Levack M, Shah A, Grogan E, Balsara K. Getting Ready for Bundled Payments: The Impact of Complications Post-CABG on Internal Costs (Presented at the 56th Annual Meeting of the Society of Thoracic Surgeons, New Orleans, LA Jan 2020).
24. Rahman Z, Skacel T, Balsara K, **Absi T**, Levack M, Shah A, Hoffman JR. Impact of Increased Donor Distances Following Adult Heart Allocation System Changes (Submitted, 67th Annual Meeting of the Southern Thoracic Surgical Association, Orlando, FL Nov 2020).

PEER REVIEWED ORAL PRESENTATIONS

1. **Absi TS**, Sundt TM, Tung WS, Moon MR, Lee JK, Damiano RJ, Thompson RW. Ascending thoracic aortic aneurysms and abdominal aortic aneurysms exhibit an altered pattern of gene expression reflecting chronic inflammation and elevated production of extracellular matrix proteinases. (*Presented at the American Association of Thoracic Surgery meeting, AATS 2002*).
2. **Absi TS**, Lee JK, Tung WS, Moon MR, Sundt TM, Damiano RJ, Thompson RW. Gene expression in ascending aortic aneurysms associated with normal and bicuspid aortic valves. (*Presented at the AHA 2003*).
3. **Absi TS**, Van-Vickle SJ, Buckley C, Moon M, Damiano RJ, Thompson RW. Alteration in gene expression associated with the transition from normal to aneurysmal aorta: a study of type III thoracoabdominal aortic aneurysms. (*Presented at the Midwestern Vascular Society 2003*).
4. Carey CD, **Absi TS**, Petracek MR, Balaguer JM, Ahmad RM, Kim B, Greelish JP, Ball S, Hoff S, Tarpley JL, Nylander W, Byrne JG. Minimally Invasive Mitral Valve Surgery without Aortic Cross Clamp: The Nashville Veterans Affairs Experience. (*Presented at the AVAS 2008*).
5. Shukrallah B, **Absi TS**, Leacche M, Poteet S, Balaguer JM, Salloum JG, Byrne JG, Petracek MR. One Year Follow-Up of Minimally invasive mitral valve surgery without Aortic Cross Clamp: the Nashville Veterans Affairs Hospital Experience. (*Presented at the AVAS 2010*).

FEATURE PRESENTATION

2009 The American Veteran: Minimally Invasive Mitral Valve Surgery at the Tennessee Valley Health Care System, The Nashville Veterans Administration Medical Center.

https://www.youtube.com/watch?v=yB6zE5_1wPc

PATENT

Absi, T and Salloum J. **PERCUTANEOUSLY INSERTED VENTRICULAR ASSIST DEVICES AND RELATED METHODS**. Application number: PCT/US2004/034285