



CURRICULUM VITAE

ZAIN KHALPEY, M.D., PhD, MRCS (Eng)

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Work Address: **01/01/2013 – Present**
1501 North Campbell Avenue #4302A, Tucson, AZ 85724, USA
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01/01/2013
Adjunct Faculty, Department of Cardiothoracic Surgery, Columbia University, New York Presbyterian, New York, USA
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Citizenship: **British European National** (093043985)
United States

Place of Birth: Bulawayo, Zimbabwe
NIH eRA Commons: ZKHALPEY
NASA NSPIRE: ZKHALPEY
AHA: Khalpey
CITI: zik01

Education**Institution:****Position / Degree**

Columbia University,
New York Presbyterian, New York, USA

Assistant Attending in Cardiac Surgery
07/2012 - 12/2012

Brigham & Women's Hospital, Harvard
Medical School, Boston, USA

**Integrated ACGME General &
Cardiothoracic Surgery Joint Training
Program** (ABS & ABTS Eligible)
06/2005 - 06/2012

Imperial College UK (Work conjointly
conducted at University of Gdansk, Mayo
Clinic, Harvard University)

Ph.D. (Doctor of Philosophy)
(Cardiothoracic Surgery, Bioenergetics and
Cardiac Transplantation) (Submitted
06/2011), Accepted 6/2012

Education Commission of Foreign Medical
Graduates, USA

ECFMG and USMLE Certification (Step
1: 91/229, Step 2CK: 89/218, Step 2CS:
Pass, Step 3, 200/260, 82%, completed
(08/2007), 7/2005

Royal College of Surgeons in England, UK

Hunterian Professor of Surgery, 3/2005
(awarded 3/8/2010)

Royal College of Surgeons of England, UK

MRCS (Eng) (Member of the Royal College
of Surgeons) (Surgery), 6/2002

Royal College of Surgeons of Ireland, UK

AFRCS(I) (Associate Fellow of the Royal
College of Surgeons) (Surgery), 11/2001

University Of London, England

MD/M.B.,B.S. (Hons) (Bachelor of
Medicine, Bachelor of Surgery) (Medicine
Honors and Distinction, Solly MEDAL in
Surgery and Honors, Distinction in Surgery,
Distinction in Psychiatry, Deans Honor Roll,
Valedictorian)
Summa cum laude, 10/1/1992 - 6/18/1998

University Of London, England

B.Sc. (Hons) (Bachelor of Science: First
Class Honors) (Pathology: Haematology and
Basic Medical Sciences), **Summa cum
laude**, 6/1995

Awards and Honors

- 2013 **Tony S. Marnell, Sr-** Endowed Chair for Research in Cardiac Surgery
- 2012 **Sarver Heart Center Award:** \$10000 - Development of iECHO for Rheumatic Fever Screening in Ethiopia
- 2010 **Harvard Medical School:** Excellence in teaching award - Best Resident/Fellow in Teaching Award, Harvard, Boston, USA
- 2010 **Hunterian Medal for Surgery,** Society of Cardiothoracic Surgeons of Great Britain, Royal College of Surgeons, England
- 2008 **Tufts University School of Medicine:** Achievement in teaching citation, Boston, USA
- 2007-2008 **Harvard Medical School:** Excellence in teaching award, Harvard, Boston, USA
- 2005 **Hunterian Professor of Surgery:** Royal College of Surgeons of England, UK
- 2004 **Winston Churchill Medal:** HRH Queen Elizabeth II, Winston Churchill Memorial Trust, London, UK
- 2004 **British Cardiac Society: John Parker International Fellowship,** University of London, UK
- 2003 **International Xenotransplantation Fellowship,** Glasgow, UK
- 2003 **Winston Churchill Fellowship,** Winston Churchill Memorial Trust, London, UK
- 2003 **The International Lancet Award,** The Lancet, London, UK
- 2003 **Honorary Boot Award,** Mayo Clinic, Rochester, Minnesota, USA
- 2003 **Boeringher Ingelheim Fonds International Fellowship** Boeringher Ingelheim Fonds, Germany
- 2003 **Young Investigators Award** European Society for the Study of Purine and Pyrimidine Metabolism in Man, Europe

- 2003 **UNESCO- Molecular and Cell Biology International Fellowship** United Nations, Switzerland and France
- 2003 **Mayo Clinic Scholarship** Mayo Clinic, Rochester, Minnesota, USA
- 2003 **International Fujisawa Fellowship** Fujisawa, Europe
- 1998 **Deans Honor Roll** Valedictorian, United Medical and Dental Schools of Guy's and St Thomas' Hospitals, London, UK
- 1998 **Irvine Prize for Geriatric Medicine** (Prize Essay) University of London, UK
- 1998 **Solly MEDAL and Prize for Surgery** (Competitive Award) University of London, UK
- 1998 **Charles Foster Merit Prize in Cardiology** (Competitive Award) University of London, UK
- 1997 **Howard Rogers Prize** (Clerkship in General Surgery at Johns Hopkins) University of London, UK
- 1997 **Charles Oldham Prize in Ophthalmology** (Competitive Prize Essay) University of London, UK
- 1996 **Prize in Pediatrics** (Competitive Award) Guy's and St Thomas' Hospital Medical School, UK
- 1996 **Prize in Obstetrics and Gynecology** Guys and St Thomas' Hospital Medical School, UK
- 1995 **Prize in Public Health** (Competitive Award) Guy's and St Thomas' Hospital Medical School, UK
- 1991 **Duncan Mathematics Award** (Competitive Award) Winchester College, Hampshire, UK
- 1991 **Science Prize for Academic Excellence** (1991 and 1992) Winchester College, Hampshire, UK
- 1989 **Stipinovich Trophy** (National Competition) Zimbabwe

Postdoctoral Training:**Institution:****Position / Degree**

Columbia University,
New York Presbyterian, New York, USA

Assitant Attending in Cardiac Surgery
07/2012 – 12/2012

Brigham and Women's Hospital,
Harvard Medical School, Boston, USA

Categorical General Surgery & Cardiac
Surgery Joint Training Program Residency
& Fellowship (Fast Track Program in
Cardiac Surgery)
6/2006 – 6/2012

Brigham and Women's Hospital,
Harvard Medical School, Boston, USA

Clinical Cardiac Fellow in
Cardiothoracic Surgery
7/2005 – 6/2006

Royal Brompton Hospital NHS Trust
London, UK

Clinical Cardiac Fellow/Honorary
Registrar in Cardiac Surgery
Cardiac Surgery
3/2002 – 5/2003

The Harley Street Clinic
London, UK

Cardiac Resident Medical Officer
Cardiolgy and Cardiac Surgery
2/2002 – 5/2003

Addenbrookes Hospital NHS Trust,
Cambridge University, UK

Senior Resident in Neurosurgery & Neuro
Critical Care, Neurosurgery
8/2001 – 2/2002

Central Middlesex Hospital
London, UK

Senior Resident in Orthopedics and
Trauma, Orthopedics and Trauma
2/2001 – 8/2001

St Mary's Hospital
Paddington, London, UK

Junior Fellow in Emergency Medicine,
Emergency Medicine
8/2000 – 2/2001

Wellington Hospital
London, UK

Senior Resident in Plastic Surgery,
Neurosurgery and Orthopedics
8/2000 – 2/2001

St Mary's Hospital
Paddington, London, UK

Senior Resident in Emergency Medicine
2/2000 – 8/2000

St Thomas' Hospital
London, UK

Internship in Orthopedic and
General Surgery
2/1999 – 8/1999

Lewisham University Hospital
London, UK

Internship in Internal Medicine
8/1998 – 2/1999

Royal Brompton Hospital NHS Trust
London, UK

Senior Resident in Pediatric and Adult
Cardiac Surgery and Intensive Care
8/1999 – 2/2000

Licensure and Certification:

- 09/2013 Intuitive Surgical Training- da Vinci Mitral Valve Repair Master's Course
- 08/2013 Advanced International Training Course- HeartWare HVAD
- 05/2013 HeartWare Training- HeartMate II
- 05/2013 Intuitive Surgical Training- da Vinci Console Surgeon
- 06/2013 AtriCure- Maze IV Procedure
- 06/2013 TransMedics Training- OCS Lung Machine
- 09/2012 Syncardia Training, Phase 1 – Total Artificial Heart – t approved
- 01/2011 IV Conscious Sedation (IVCS), Brigham and Women's Hospital, Boston, USA
- 04/2009 Fundamentals of Laparoscopic Surgery, ACGME approved, American Board of Surgery (FLS), Brigham and Women's Hospital, Boston, USA
- 06/2010 Renewed Advanced Cardiac Life Support (ACLS), Brigham and Women's Hospital, Boston, USA
- 01/2008 Commonwealth of Massachusetts Board of Registration in Medicine: FULL licence #234500
- 07/2007 Advanced Trauma Life Support (ATLS)
- 06/2007 IV Conscious Sedation (IVCS), Brigham and Women's Hospital, Boston, USA

06/2006 Advanced Cardiac Life Support (ACLS), Brigham and Women's Hospital, Boston, USA

07/2005 Massachusetts Board of Medical Licensure: Limited Licence #226360

06/2005 ECFMG and USMLE I-II Certification

05/2005 Radiation and Protection Safety (Massachusetts General Hospital, USA)

08/2003 Radiation and Protection Safety (Mayo Clinic Hospital, USA)

06/2002 Member of the Royal College of Surgeons of England

07/2002 Home Office Animal Handling (Personal and Project Holder), London, UK

02/2002 Royal College of Surgeons: Microvascular Surgery, Northwick Park Hospital, London, UK

11/2001 Associate Fellow of the Royal College of Surgeons of Ireland

01/2001 Royal College of Surgeons: Basic Surgical Skills, London, UK

02/2000 Plastics and Burns (East Grinstead Hospital, UK) (First Prize)

04/2000 Advanced Trauma Life Support (ATLS)

02/2000 Radiology (Northwick Park Hospital, London, UK)

09/2000 Pediatric Advanced Life Support (PALS)

03/2000 Advanced Life Support (ALS)

06/1998 Medical Defence Union, UK

06/1998 General Medical Council, UK

Academic Appointments**Institution:**

University of Arizona,
Tucson, Arizona

Position:

Associate Professor of Surgery, Medical
Imaging, Physiological Sciences &
Biomedical Engineering
01/2013 - present

Columbia University,
New York City, USA

Assistant Attending in Cardiac Surgery
07/2012 - 12/2012

Harvard Medical School
Boston, USA

Clinical Fellow & Educator in Surgery:
Faculty, Harvard Medical School.
12/2005 – 6/2012

Harvard Medical School
Boston, USA

Clinical Tutor: Faculty, Harvard Medical
School.
Harvard Medical School Faculty Examiner
12/2004 – 6/2012

Massachusetts General Hospital,
Harvard Medical School
Boston, USA

Research Fellow in Surgery
(Transplantation Biology Research Center),
Surgery
4/2004 – 5/2005

Mayo Clinic Rochester
Minnesota, USA

Research Fellow in Transplantation
Biology
7/2003 – 3/2004

University of Gdansk, Poland

Research Fellow in Nucleotide Metabolism
1/2001 – 6/2005

Technology and Medicine
London, UK

Research Fellow in Cardiac Surgery,
Imperial College of Science
1/2001 – 6/2005

Royal Brompton Hospital NHS Trust
London, UK

Honorary Research Registrar in
Cardiothoracic Surgery
3/2002 – 5/2003

Major Committee Assignments

2014	Surgery Search Committee
2014	ECMO Steering Committee
2013	International Society for Cardiovascular Translational Research (ISCTR) Scientific Advisory Board
2013	Transplant Operations Steering Committee
2013	IntelliCell BioSciences, Inc. Advisory Board
2/2002 –5/2003	Clinical Governance Committee, Member, Harley Street Clinic, London, UK

Professional Societies

2005 -	American College of Surgeons, Member
2002 -	Royal College of Surgeons of England, Member
2002 -	Royal Society of Medicine, Fellow
2001 -	European Society of the study of Purine and Pyrimidine Metabolism in Man, Member
2001 -	Royal College of Surgeons of Ireland, Associate Fellow
2001 -	American Heart Association, Member
2001 -	International Society of Heart and Lung Transplantation, Member
2001 -	International Society of Surgeons, Member
1998 -	General Medical Council, UK, Member: 4521365
1998 -	British Medical Association, Member

Community Service Related to Professional Work

- 2007 - **Team Heart Rwanda (Dr RM Bolman III**, Chief, Dept of Cardiac Surgery, Brigham & Women's Hospital, Boston, USA) (Planned Mission to Rwanda, Kigali's King Faisal Hospital, April 2008)
- 2006 - **Partners in Health**, Boston, USA (Paul Farmer, Gene Bukhman)
- 1998 - **Chain of Hope UK** (Professor Sir Magdi Yacoub)

Editorial Boards

- 2003 - Cardiology and Cardiac Surgery Advisor: Career Advice Zone, British Medical Journal

REPORT OF TEACHING**Advisees / Trainees**

Duration of Training:	Name / Institution:	Current Position:
2006 – present	Orrin Franko, Pavan Cheruvu, Jamilla Watkins, Justin Caplan, Tonguc Pinar, Chris Gaffey, Christopher Gross, Matthew Altman, Theodore Marentis, Melissa Burroughs, Mark Henry, Xumei Cai, Chirisse Taylor, Lucia Madariaga, Onye Iweala, Jocelyn Robinson, Stephen Huffaker, Thomas Hickey, Erin Lei, Adnan Prisc, Walter Lin	Clinical Tutor & Educator, Faculty, Harvard Medical School, Core Surgical Clerkship
2005 - 2006	Harvard Medical School: 2 nd Yr OSCE	Faculty Examiner, Harvard Medical School
2004 - 2005	Harvard Medical School, 2 nd Yr Students: Human Systems - CV & Resp Course	Clinical Tutor, Faculty, Harvard Medical School
2001 – 2003	Cardiac Nursing Staff, Harley Street Clinic	Resident Medical Officer in Cardiac Surgery
2001 - 2003	Senior Residents in Cardiac Surgery, Adult Intensive Care	Honorary Fellow in Cardiac Surgery

1999 - 2000	Medical Students Yr 1	Anatomy Demonstrator/Lecturer
1998 – 1999	Anberin Khan	Intern in General Surgery

Original Articles

2014

1. X Lu B, Poston R, **Khalpey Z**, Ghaffari R, Huang Y, Slepian MJ, Rogers JA. Conformal piezoelectric energy harvesting and storage from motions of the heart, lung and diaphragm. Proc Natl Acad Sci. 2014 February 4; 111 (5): 1927-32.
2. Wagner DE, Bonenfant NR, Sokocevic D, Desarno MJ, Borg ZD, Parsons CS, Brooks EM, Platz JJ, **Khalpey ZI**, Hoganson DM, Deng B, Lam YW, Oldinski RA, Ashikaga T, Weiss DJ. Three-dimensional scaffolds of acellular human and porcine lungs for high throughput studies of lung disease and regeneration. Biomaterials. 2014 March; 35 (9): 2664-79.
3. Poston R, Gharagozloo F, **Khalpey Z**, Kim S. Robotic training in cardiothoracic surgery. Ann Thorac Surg. 2014 Jan; 97(1): 378.

2013

4. Athanasopoulos LV, McGurk S, **Khalpey Z**, Rawn JD, Schmitto JD, Wollersheim LW, Maloney AM, Cohn LH. Usefulness of preoperative cardiac dimensions to predict success of reverse cardiac remodeling in patients undergoing repair for mitral valve prolapse. Am J Cardiol. 2013 December; Epub.
5. Hernandez- Vaquero D, Garcia JM, Diaz R, Calvo D, **Khalpey Z**, Hernandez E, Rodriquez V, Moris C, Llosa JC. Moderate patient-prosthesis mismatch predicts cardiac events and advanced functional class in young and middle-aged patients undergoing surgery due to severe aortic stenosis. J Card Surg. 2013 December 12.

6. Bartoli CR, Demarest CT, **Khalpey Z**, Takayama H, Naka Y. Current management of left ventricular device erosion. *J Card Surg.* 2013 November; 28(6): 776-82.
7. Neely RC, Davis RP, Stephens EH, Takayama H, **Khalpey Z**, Ginna J, Lee SH, Chen J. Ventricular assist device for failing systemic ventricle in an adult with prior mustard procedure. *Ann Thorac Surg.* 2013 August; 96 (2): 691-3.
8. Diaz R, Hernandez-Vaquero D, Llosa JC, **Khalpey Z**. A Predictive Risk Model for Transcatheter Aortic Valve Procedures. An Extraordinary Tool but a Formidable Challenge. *Am J Cardiol.* 2013 June 15; 111 (12): 1831-2.
9. Ota T, Takayama H, **Khalpey Z**, Naka Y. Reinforcement of HeartMate II Bend Relief Connection: Champagne Bottle Technique. *Ann Thorac Surg.* 2013 Apr; 95(4): 107-8.
10. **Khalpey Z**, Shernan SK, Nascimben L, Aranki SF. Partial Anterior Leaflet valvuloplasty to Avoid Systolic Anterior Motion after Mitral Valve Repair. *Ann Thorac Surg.* 2013 Apr; 95(4): 1462-3.
11. **Khalpey Z**, Baird CW, Myers PO. Alfieri Repair for Post-Repair Mitral Systolic Anterior Motion in a Young Child. *Ann Thorac Surg.* 2013 Apr; 95(4): 1452-3.
12. Myers PO, Del Nido PJ, McElhinney DB, **Khalpey Z**, Lock JE, Baird CW. Annulus Upsizing for Mitral Valve Re-Replacement in Children. *J Thorac Cardiovasc Surg.* 2013 August; 146(2): 347-51.
13. **Khalpey Z**, Yacoub MH, Smolenski RT. Nucleotide Metabolic Mismatches in Mammalian Hearts: Implications for Transplantation. *Ann R Coll Surg Engl.* 2013 Jan; 95(1): 9-14.

2012

14. **Khalpey Z**, Shernan S, Nascimben L, Aranki SF. How to do it: A Novel Surgical Technique – Partial Valvuloplasty of the Anterior Leaflet to Avoid Systolic Anterior Motion Following Mitral Valve Repair. *Ann Thoracic Surg* 2012 Oct.
15. **Khalpey Z**, Borstlap W, Myers PO, Schmitto JD, McGurk S, Maloney A, Cohn LH. The Valve-in-Valve Operation for Aortic Homograft Dysfunction: A Better Option. *Ann Thoracic Surg* 2012 Sep; 94(3): 731-6
16. **Khalpey Z**, Dekkers RJ, Nauta FJH, Shekar P. Warm beating heart with deep hypothermic circulatory arrest: A technique for an unclampable aorta with aortic valve regurgitation. *JTCVS* 2012 Sep; 144(3): 731-2

17. Myers PO, **Khalpey Z**, Maloney A, Brinster D, Cohn LH. Edge-to-Edge Repair for Prevention and Treatment of Mitral Valve Systolic Anterior Motion. 2013 October; 146(4): 836-40.
18. **Khalpey Z**, Bedzra E, Myers PO, Schmitto JD, Rajab TK, Stella MH, Cohn LH. Giant vein graft pseudoaneurysm with pulmonary hemorrhage. JTCVS 2012 Aug; 144(2):e14-6
19. Iliopoulos DC, Deveja AR, Androutsopoulou V, Filias V, Kastelanos E, **Khalpey Z**, Koudoumas D. Single Center Experience Using the SOLO Freedom Aortic Bioprosthesis. JTCVS 2012 July 17 (ePub)
20. Myers PO, Tabata M, Shekar PS, Couper GS, **Khalpey ZI**, Aranki SF. Extensive endarterectomy and reconstruction of the left anterior descending artery: early and late outcomes. JTCVS 2012 Jun; 143(6):1336-40
21. Denecke C, Reutzel-Selke A, Sawitzki B, Boenisch O, **Khalpey Z**, Seifert M, Pratschke J, Volk HD, Tullius SG. Low-dose cyclosporine mediates donor hyporesponsiveness in a fully mismatched rat kidney transplant model. Transpl Immunol. 2012 Jun; 26(4):176-85
22. **Khalpey Z**, Rajab TK, Ashley SW. Serous Cystadenoma Causing the Double Duct Sign. J Gastrointest Surg 2012 Jun; 16(6):1282-3
23. Nauta FJ, Borstlap WA, Stella M, **Khalpey Z**. Cardiac Tamponade: contrast reflux as an indicator of cardiac chamber equalization. JTCVS 2012 May 31; 7:48
24. Hernández-Vaquero D, Llosa JC, Díaz R, **Khalpey Z**, Morales C, Alvarez R, López J, Boye F. Impact of patient-prosthesis mismatch on 30-day outcomes in young and middle-aged patients undergoing aortic valve replacement. J Cardiac Surg 2012 May 15; 7:4

2011

25. **Khalpey Z**, Tullius SG. Refractory Calciphylaxis. Am J Surg 2011 Sep; 202(3):e27
26. Sun X, Imai M, Nowak-Machen M, Guckelberger O, Enjyoji K, Wu Y, **Khalpey Z**, Berberat P, Munasinghe J, Robson SC. Liver damage and systemic inflammatory responses are exacerbated by the genetic deletion of CD39 in total hepatic ischemia. Purinergic Signal. 2011 Dec; 7(4):427-34.
27. **Khalpey Z**, Miller DV, Schmitto JD, Kushwaha SS. Long term maintenance therapy for Post Cardiac Transplant Monoclonal Lymphoproliferative Disorder: caveat mTOR. Transplant Proceedings Transplant Proc. 2011 Jun; 43(5):1893-9
28. **Khalpey Z**, Rajab TK, Schmitto JD, Camp PC. Traumatic Pericardial Rupture with skeletonized phrenic nerve. J Cardiothoracic Surg. 2011 Jan 17; 6(1):6

2010

29. Russell E, Chien V, **Khalpey Z**, Bonaca M, Aragam J, Haime M, Crittenden M. Left ventricular thrombosis refractory to medical therapy. *J Am Coll Cardiol*. 2010 Nov 2; 56(19): e37.
30. Rajab TK, **Khalpey Z.**, Kraemer B, Resnic FS, Gallegos RP. Recurrent post-partum coronary artery dissection. *J Cardiothoracic Surg*. 2010 Oct 9; 5(1): 78.
31. Rajab TK., **Khalpey Z.**, Cohn LH, Gallegos RP. Cardiac Hemangioma Presenting with Angina Pectoris. *J Card Surg*. 2010 Jul 29. 25(6): 664-666
32. Rajab TK, **Khalpey Z.**, Gallegos RP. Post-partum coronary artery dissection. *Eur J Cardiothorac Surg*. 2010 Dec; 38(6):806.
33. Viswanathan SR, **Khalpey Z**, Ashley SW. Gallbladder Lymphoma. *Med Oncol*. 2011 Sep; 28(3):810-2
34. Nikolic B, Onoe T, Takeuchi Y, **Khalpey Z**, Primo V, Leykin I, Smith RN, Sykes M. Distinct requirements for achievement of allotolerance versus reversal of autoimmunity via nonmyeloablative mixed chimerism induction in NOD mice. *Transplantation*. 2010 Jan 15; 89(1):23-32.PMID: 20061915 [PubMed - indexed for MEDLINE]

2009

35. **Khalpey Z**, Gilfeather MS, Camp PC Jr, Jaklitsch MT. Controlled antegrade single lung reperfusion during double lung transplant. *Interact Cardiovasc Thorac Surg*. 2009 Dec; 9(6):932-3.
36. Behdad A, Sun X, **Khalpey Z**, Enjyoji K, Wink M, Wu Y, Usheva A, Robson SC. Vascular smooth muscle cell expression of ectonucleotidase CD39 (ENTPD1) is required for neointimal formation in mice. *Purinergic Signal*. 2009 Sep; 5(3):335-42.
37. Tabata M, Grab JD, **Khalpey Z**, Edwards FH, O'Brien SM, Cohn LH, Bolman RM 3rd. Prevalence and variability of internal mammary artery graft use in contemporary multivessel coronary artery bypass graft surgery: analysis of the Society of Thoracic Surgeons National Cardiac Database. *Circulation*. 2009 Sep 15; 120(11):935-40.
38. **Khalpey Z**, Camp P Jr, Jaklitsch MT. Left circumflex to bronchial artery fistula. *Ann Thorac Surg*. 2009 Jul; 88(1):303.

2008

39. **Khalpey Z***, Tabata M*, Cohn LC, Shekar P. Reoperative minimal access Aortic Valve Surgery: Minimal Mediastinal Dissection and Minimal Injury Risk. . 2008 Dec; 136(6):1564-8.
40. Caplan JM, **Khalpey Z**, Gates J.: Closed traumatic head injury: dural sinus and internal jugular vein thrombosis. Emerg Med J. 2008 Nov;25(11):777-8.PMID
41. Ramos M, **Khalpey Z**, Lipsitz S, Steinberg J, Panizales MT, Zinner M, Rogers SO. Relationship of perioperative hyperglycemia and postoperative infections in patients who undergo general and vascular surgery. Ann Surg. 2008 Oct;248(4):585-91.PMID: 18936571
42. Franko OI*, **Khalpey Z***, Gates J. Brachial plexus trauma: the morbidity of hemidiaphragmatic paralysis. Emerg Med J. 2008 Sep;25(9):614-5.PMID: 18723725
43. Tabata M, **Khalpey Z**, Cohn LH, Chen FY, Bolman RM 3rd, Rawn JD. Effect of preoperative statins in patients without coronary artery disease who undergo cardiac surgery. J Thorac Cardiovasc Surg. 2008 Dec; 136(6):1510-3. Epub 2008 Aug 27
44. **Khalpey Z**, Cotton M: Burns Units: An expensive luxury or essential advance? Rural Surgery July 2008: 4 (3):10-13
45. **Khalpey Z**, Gross C, Chong T, Gates J: Compartment Syndrome: A unique presentation. Grand Rounds (08/2008) (not available on pubmed)
46. **Khalpey Z**, Kushwaha S. 'Rapping' up Cardiac Allograft Vasculopathy. Clinical Cardiology. Clin Cardiol. 2008 Jun;31(6):286-7.

2007

47. Raichlin E, Bae JH, **Khalpey Z**, Edwards BS, Kremers WK, Clavell AL, Rodeheffer RJ, Frantz RP, Rihal C, Lerman A, Kushwaha SS. Conversion to Sirolimus as Primary Immunosuppression Attenuates the Progression of Allograft Vasculopathy After Cardiac Transplantation. Circulation 2007, Dec 4;116(23):2726-33
48. **Khalpey Z**, Yuen A, Lavitrano M, McGreggor C, Kalsi KK, Yacoub M, Smolenski T. Mammalian mismatches in nucleotide metabolism: Implications for Xenotransplantation. Mol Cell Biochem. 2007 Oct;304(1-2):109-117
49. Raichlin E, **Khalpey Z**, Kremers W, Frantz RP, Rodeheffer RJ, Clavell AL, Edwards BS, Kushwaha SS. Replacement of Calcineurin-Inhibitors With Sirolimus as Primary Immunosuppression in Stable Cardiac Transplant Recipients. Transplantation. 2007 Aug 27;84(4):467-474.

50. Tabata M, Umakanthan R, **Khalpey Z**, Couper GC, Rizzo R, Aranki S, Cohn LC, Shekar P. Conversion to full sternotomy during minimal-access cardiac surgery: reasons and results during a 9.5-year experience. *J Thorac Cardiovasc Surg*. 2007 Jul;134(1):165-9.
51. Memtsoudis SG, Lekowski R, **Khalpey Z**, Rosenberger P, Fitzgerald DJ, Claypoole V, Courtney KD, Landzberg MJ, Bunn F, Shekar P. Pulmonary Thrombectomy in a patient with Nottingham Hemoglobin. *Perfusion*. 2007 Jul;22(4):299-301. DOI: 10.1177/0267659107084143
52. Shimizu I, Hamada T, **Khalpey Z**, Miyanishi K, Hara T. Ochronotic arthropathy: pathological evidence of acute destruction of the hip joint. *Clin Rheumatol*. 2007 Jul;26(7):1189-91. Epub 2006 Jun 20.
53. Tabata M, **Khalpey Z**, Shekar P, Couper GS, Cohn L. Minimal access surgery of ascending aortic and proximal arch of the aorta: A 9 year experience. *Ann Thorac Surg*. 2007 Jul;84(1):67-72
54. Tabata M, Umakanathan R, **Khalpey Z**, Aranki SF, Couper GS, Cohn LH, Shekar PS. Conversion to full sternotomy during minimal access cardiac surgery: reasons and results during a 9.5 year experience. *J Thoracic Cardiovasc Surg*. 2007 Jul; 134(1):165-9
55. Tabata M, **Khalpey Z**, Pirudini P, Byrne ML, Cohn LC, Rawn JD. Renoprotective effect of preoperative statins in coronary artery bypass grafting. *Am J Cardiol*. 2007 Aug 1;100(3):442-4. Epub 2007 Jun 15

2006

56. Smolenski RT, **Khalpey Z**, Osborne FN, Yuen A, Slominska EM, Lipinski M, Lavitrano M, Rose M, Yacoub MH. Species differences of endothelial extracellular nucleotide metabolism and its implications for xenotransplantation. *Pharmacol Rep*. 2006: 58 Suppl: 118-25
57. Yuen AH, **Khalpey Z**, Lavitrano M, McGregor CG, Kalsi KK, Yacoub MH, Smolenski RT. Differences in activities of the enzymes of nucleotide metabolism and its implications for cardiac xenotransplantation. *Nucleosides Nucleotides Nucleic Acids*.
58. 2006;25(9):1221-4.

2005

59. **Khalpey Z**, et al. End of Term Report. Postcards from doctors around the world. *BMJ Career Focus* 24 Dec, 2005. 31(7531): 276
60. Kushwaha S, **Khalpey Z**, Frantz RP, Rodeheffer RJ, Alfredo L. Clavell AL, Daly RC, McGregor CG, Edwards BS. Rapamycin in Cardiac Transplantation: Use as a Primary Immunosuppressant in Calcineurin-Inhibitor induced Nephrotoxicity. *J Heart Lung Transplant*. 2005 Dec; 24(12): 2129-36.
61. Lim E, Ali A, **Khalpey Z**, Ashrafian H, Jackson C, Ali Z, Chamageorgakis T, Wells F, Pepper J, DeSouza A, Moat N.A validated simple model to predict coexistent coronary disease in patients undergoing mitral valve surgery. *JTCVS* Jun 2005; 129 (6): 1318-21
62. **Khalpey Z**, Yuen A, Kalsi K, Batten P, Yacoub M, Smolenski T. Loss of cytoprotective porcine endothelial ecto-5'-nucleotidase after exposure to human blood: Implications for xenotransplantation. *Biochemica et Biophysica Acta – Molecular Basis of Disease* Jun 2005; 1741: 191-198
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3. Son T, Qu N, Louis AV, Hemphill C, Ferng AS, Smith B, Stavoe, K, Penick, K, **Khalpey Z**. Optimization of porcine heart decellularization. American College of Physicians: Arizona chapter scientific meeting. Tucson, AZ, November 15, 2013
4. Qu N, Louis A, Hemphill C, Ferng AS, Penick K, **Khalpey Z**. Effect of a novel ORCA bioreactor on an intact porcine heart decellularization. American Heart Association annual meeting. Dallas, TX, November 16-20, 2013.
5. Parvaneh S, **Khalpey Z**, Rawashdeh B, Poston R, Najafi B. Assessing stress during robotic cardiac surgery-comparison between simulated surgery, actual surgery, and surgery supervision cases. Society of Robotic Surgery annual meeting. Orlando, FL, November 7-9, 2013.
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2014

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2013

2. **Khalpey Z**, Heart transplantation: the future and the present. 27th Annual Green Valley Lecture Series presented by the UA Sarver Heart Center and Green Valley Recreation, Inc. Tucson, AZ. 12/19/2013.

2010

3. **Khalpey Z**, Metabolic mismatches across species: Relevance to heart transplantation. Brigham & Women's Hospital, Harvard Medical School, Boston, MA: 3/24/2010
4. **Khalpey Z**. Bioenergetics in Mammalian Hearts: Implications for Transplantation. West Roxbury VA Hospital, Harvard Medical School, Boston, MA: 12/5/2008

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5. **Khalpey Z**. Purine Metabolism and Cardiac Transplantation (West Roxbury VA Hospital, Harvard Medical School, Boston, MA: 12/5/08)

Current Grants

1. \$750,000: Nickerson C, **Khalpey Z**. RNA Deep Sequencing and Metabolomic Profiling of Microgravity-Induced Regulation of the Host-Pathogen Interaction: An Integrated Systems Approach. NASA Grant. **May 2013**
2. \$1 million: Feinberg Foundation
3. \$1.6 million: Tony A. Marnell, Sr. Endowed Chair for Research in Cardiac Surgery

Active IRB's: University of Arizona Medical Center

<u>Protocol #</u>	<u>PI Name</u>	<u>Title</u>	<u>Sponsor Name</u>	<u>Overall Status</u>	<u>Approval Expires</u>
12-0218-01	Khalpey, Zain	The Mechanical Circ. support	Department	Active	03/26/2015
13-0194	Khalpey, Zain	CAPTURED	Department	Active	07/01/2014
10-0397	Khalpey, Zain	Freedom Driver	Syncardia	Active	11/22/2014

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8. UA News. (August 15, 2013). UA Collaborates on NASA Grant Exploring Infectious Microbes and Spaceflight Risk [Press release]. Retrieved from <http://uanews.org/story/ua-collaborates-on-nasa-grant-exploring-infectious-microbes-and-spaceflight-risk>
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10. Department of Surgery. (June 26, 2013). UA Surgeons Implant Southern Arizona's First HVAD Pump: Smallest, Next-Generation Full-Support Heart-Assist Device [Press release]. Retrieved from <http://surgery.arizona.edu/news/2013/ua-surgeons-implant-southern-arizona%E2%80%99s-first-hvad-pump-smallest-next-generation-full-suppo>
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Theses

1995

BSc (Hon) First Class

1. **Khalpey Z:** Antioxidants and in vitro and in vivo cytoprotective effects on cells exposed to cytotoxic acetaldehyde-albumin complexes. Imperial College of Science, Technology and Medicine. University of London. (Supervisor: Professor SN Wickramasinghe, St Mary's Hospital, London, UK)

2009

PhD

1. **Khalpey Z:** Mammalian Mismatches in Nucleotide Metabolism: Implications for Transplantation.(Supervisor: Professor Sir Magdi Yacoub and Dr Tom Smolenski). (Work conducted at: Imperial College, London, UK; University of Gdansk, Poland; Mayo Clinic, Rochester, Minnesota, USA)

Patents

1. **Khalpey Z, Kushwaha S** (Co-inventor): *Minimally Invasive supra-aortic levitational endovascular ventricular assist device* (Mayo Medical Ventures, provisional US patent)

46482A 12/02/2011)

2. **Khalpey Z, Hamzaoui A** (Co-inventor): *Heart Smartphone* (Smartphone technology, photoplethysmography, US Provisional Patent **P74195** 6/2011)
3. **Khalpey Z**: *Biodegradable IVC Filter* (Invention Disclosure: Technology Transfer Office, Brigham & Women's Hospital)
4. **Khalpey Z, Ferzoco S**: "*Blutox*" – *wireless photoplethysmography* (US provisional patent)
5. **Khalpey Z**: *iECHO* (US provisional patent)
6. **Khalpey Z**: *iAED* (US provisional patent)

References

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- *Dr Lawrence H. Cohn M.D (Hubbard Professor of Surgery, Harvard Medical School),*
- *Dr James Rawn M.D (Cardiac Surgery ICU Director),*
- *Dr Stephen Gregory Couper M.D (Director of Cardiac Transplantation)*
- *Dr Michael Jaklitsch M.D (Thoracic Oncology & Transplantation)*
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