Shukri F. KHURI

Research and Professional Experience

Dr. Khuri has spent his entire professional career as a full time VA employee. Through his work in the VA, he achieved national and international prominence in the fields of cardiac pathophysiology and surgery, quality improvement, and health policy research. His research laboratory at West Roxbury has been continuously funded since 1977 and has trained more than 60 residents and postgraduate students in applied and translational research. It has also established close associations with Naval Blood Research Laboratory in Boston and other laboratories at the Brigham and Women's Hospital and MIT. Dr. Khuri's laboratory has made major contributions in the fields of myocardial protection, endothelial preservation and blood conservation in cardiac surgery. His research has led to the development of 1) the first metabolic tool for the on-line assessment of myocardial protection during cardiac surgery; the Khuri Myocardial pH Monitor, which was placed on the global market by Terumo Cardiovascular Systems Corporation on April 1, 2004; 2) the first perfusion machine for the preservation of the donor heart in the beating state, which is currently being manufactured and tested by Transmedics Inc.; 3) the GALA preservation solution and its application apparatus, which promise to enhance the long term patency of vascular conduits, and which are currently being licensed by the VA to Marine Polymers Technologies Inc. The patents generated by these inventions were amongst the fist patents to go through the VA's technology transfer office. Dr. Khuri also associated closely with the VA's Cooperative Studies Program where he participated in several of these studies as Principal Investigator or member of the Executive or Planning Committees.

Positions and Honors:

Licensure and Certification:

1968	License to Practice Medicine, Beirut, Lebanon
1976	License to Practice Medicine, Commonwealth of Massachusetts
1976	American Board of Surgery
1977	American Board of Thoracic Surgery
1986	Recertification, American Board of Thoracic Surgery

Current Positions and Employment:

2004-Pres.	Associate Chief of Surgery, VA Boston Healthcare System

Current Professional Societies :

2001-Pres.	Member, Society for Research on Nicotine and Tobacco

Recent Awards & Honors:

2004	9th Richard W. TeLinde Lecturer., Joint meeting of the Society of Gynecologic Surgeons and the American Urogynecologic Society
2004	Commendation from the Department of Veterans Affairs "for outstanding contributions to the field of Cardiothoracic Surgery, for services as Chief of Surgery at the West Roxbury VA Medical Center and VA Boston Healthcare System, 1984-2004 and for the development and

implementation of the National Surgical Quality Improvement Program."

2004 Establishment of the "Shukri F. Khuri Visiting Professorship in Cardiac Surgery" at the VA Boston Healthcare System

2005 Kergin Visiting Professor and Lecturer, Department of Surgery, University of Toronto

2005 Certificate of recognition of honorary lecturer from Instituto Mexicano Del Seguro Social, Mexico City

2005 Elected 2nd Vice-President, American Surgical Association

Latest publications:

1. **Khuri SF**, Healey NA, Hossain M, Birjiniuk V, Crittenden MD, Josa Miguel, Treanor PR, Najjar SF, Kumbhani D. Intra-operative Regional Myocardial Acidosis and Reduction In Long-Term Survival After Cardiac Surgery. J Thorac Cardiovasc Surg 2005; 192(2):372-381.
2. Rudolph JL, Babikian VL, Crittenden MD, Birjiniuk V, Treanor PR, Pochay V, Lhuri S, Marcantonio ER. Atherosclerosis Is Associated With Delirium After Coronary Artery Bypass Surgery. J Am Geriatr Soc 2005;53:462-466.
3. Hamel M, Henderson WG, Daley J, Khuri S. Surgical Outcomes For Patients Age 80 Or Older: Morbidity and Mortality For Non-cardiac Surgery. J Am Geriatr Soc 2005; 53:424-429.
4. Gordon HS, Johnson ML, Wray NP, Petersen NJ, Henderson WG, **Khuri SF**, Geraci JM. Mortality After Non-cardiac Surgery: Prediction From Administrative Versus Clinical Data. Med Care. 2005;43(2):159-167
5. Hua HT, Cambria RP, Chuang SK, Stoner MC, Kwolek CJ, Rowell KS, **Khuri SF**, Henderson WG, Brewster DC, Abbott WM. Early Outcomes Of Endovascular Versus Open Abdominal Aortic Aneurysm Repair in the National Surgical Quality Improvement Program – Private Sector (NSQIP-PS). J Vasc Surg 2005;41:382-389.
6. Alvord LA, Rhoades d, Henderson WG, Goldberg JH, Hur K, **Khuri SF**, Buchwald D. Surgical Morbidity And Mortality Among American Indian And Alaska Native Veterans: A Comparative Analysis. JACS 2005;200:837-844.
7. Aust JB, Henderson W, Khuri S, Page CP. The Impact Of Operative Complexity On Patient Risk Factors. Ann Surg 2005;241:1024-1028.

Current Research Support

2004-2009 VA Merit Review

"Acidosis Mediated Apoptosis in Cardiac Myocytes"

Annual Direct Costs: $250,000

Goal: The primary objective of this study is to elucidate the relationship between myocardial tissue acidosis and myocyte cell apoptosis under ischemic conditions normally encountered in the course of cardiac surgery.

2004-2006 Proctor & Gamble / Alexion Pharmaceuticals Inc.

"A multicenter, randomized, double-blind, parallel-group placebo-controlled study of 2 mg/kg bolus plus 24-hour 0.05 mg/kg/hr infusion of pexelizumab in patients undergoing coronary artery bypass grafting with cardiopulmonary bypass" #2003141 – PRIMO-CABG II

Direct Costs: $396,000

Goals: The primary objectives of this study is to look at the safety and efficacy of pexelizumab (a single-chain monoclonal antibody fragment that binds to the C5 component of complement to reduce and/or inhibit acute inflammatory reactions/complement-meiated ischemia-reperfusion injury) on all cause mortality and MI through POD30. Secondary endpoints are: all cause mortality at POD90 and new or worsening congestive heart failure up to POD30. Tertiary endpoints are: all cause mortality at POD180; worsening of NYHA score from baseline to POD30; resource utilization through POD90; and total chest tube drainage.

2005-2006 Archemix Corp.

"Evaluation of the anticoagulantion properties of ARC183 in the pig"

Annual Direct Costs: $157,665

Goals: To evaluate the anticoagulation properties of ARC183 administered intravenously in a swine model employing cardiopulmonary bypass. ARC183, a synthetic DNA molecule, 15 nucleotides in length, comprised entirely of guanosine and thymidine residues, binds reversibly to thrombin and inhibits its action. It inhibits thrombin-catalyzed activation of fibrinogen and also inhibits thrombin-induced platelet activation and aggregation by blocking thrombin binding and cleavage of protease activated receptor-1. Unlike heparin, ARC183 does not activate platelets in vivo and thus may not be associated with the risk of possible impairment in platelet function or thrombocytopenia. The key properties of Arc183 are: specificity for thrombin, predictable effects on anticoagulation as measured by activated clotting time (ACT) and other routine coagulation measurements, a short pharmacokinetic half-life resulting in rapid reversal of pharmocodynamic effects, and lack of side effects. The primary endpoint is to determine thrombus formation. This will be done: 1) grossly, 2) microscopically, 3) by various blood assays, 4) by measurement of bleeding, and 5) by Doppler flow measurements.