

CURRICULUM VITAE

Mushabbar A. Syed, M.D., F.A.C.C
2006

PERSONAL DATA

Current Position: Associate Professor of Medicine
Director, Cardiovascular CT & MR Imaging
Gill Heart Institute, University of Kentucky
Lexington, KY

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Lexington, KY 40536-0294

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COLLEGE EDUCATION

Government College Lahore, Pakistan	F.Sc (Pre-medical)	09/1980
Punjab University Lahore, Pakistan	Bachelor of Science (B.Sc)	07/1984

POSTGRADUATE EDUCATION

King Edward Medical College Punjab University Lahore, Pakistan	M.B., B.S	02/1987
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POSTGRADUATE TRAINING

National Heart, Lung & Blood Institute, National Institutes of Health, Bethesda, MD	Clinical/Research Fellow Cardiovascular MRI	07/02-04/04
Henry Ford Hospital Detroit, MI	Chief Fellow, Cardiology	07/01-06/02
Henry Ford Hospital Detroit, MI	Clinical Fellow, Cardiology	07/99-06/01
Henry Ford Hospital Detroit, MI	Intern & Resident, Internal Medicine	07/94-06/97
Royal Infirmary & Queen's Park Hospital Blackburn, UK	Resident, Internal Medicine	08/91-06/94
Mayo Hospital King Edward Medical College Lahore, Pakistan	Medical Officer, Cardiology	03/89-11/90
Sheikh Zayed Hospital Federal Postgraduate Institute Lahore, Pakistan	Resident, Internal Medicine	07/88-03/89
Mayo Hospital King Edward Medical College Lahore, Pakistan	Intern (Medicine & Surgery)	04/87-03/88

CARDIOVASCULAR IMAGING TRAINING

Cardiovascular MRI	Level III
Cardiac CT	Level II
Echocardiography	Level III

CERTIFICATION & CERTIFICATION NUMBERS

Board certified, Cardiovascular Diseases	11/2002
Board certified, American Board of Internal Medicine	08/1997
United States Medical Licensing Examination: Number 0-490-564-2	
Step 1: 06/93, Step 2: 09/92, Step 3: 05/96	
Professional & Linguistics Assessment Board (PLAB) United Kingdom	1990

LICENSURE & CERTIFICATE NUMBERS

Georgia License Registration No. 54285 (active)	2004
Maryland License Registration No. D59308 (inactive)	2002
Michigan License Registration No. 4301064128 (inactive)	1994
United Kingdom General Medical Council (inactive)	1991

SPECIAL AWARDS & HONORS

2006	Excellence in Teaching Cardiovascular Fellowship Class of 2006 Emory University School of Medicine Atlanta, GA.
2005	Fellow, American College of Cardiology
2004	Finalist, Poster Competition in Clinical Science American Heart Association Annual Scientific Sessions New Orleans, LA.
2002	Francis N. Fernandes Fellowship Award Henry Ford Heart & Vascular Institute, Detroit, MI.
2001	Chief Cardiology Fellow Henry Ford Hospital, Detroit, MI.

- 2001 Fujisawa Travel Grant
American Society of Nuclear Cardiology
- 2000 Cardiology Fellow of the Year
Henry Ford Heart & Vascular Institute, Detroit, MI.
- 1997 Best Resident, Department of Internal Medicine
Henry Ford Hospital, Detroit, MI
- 1997 Young Investigator Award
American College of Chest Physicians
Annual Scientific Sessions, New Orleans, LA.
- 1997 Finalist, Alfred Soffer Research Award
American College of Chest Physicians
Annual Scientific Sessions, New Orleans, LA.

HOSPITAL POSITIONS HELD IN U.S.

- 05/04-07/06 Assistant Professor of Medicine (Cardiology)
Director of Cardiac Imaging
Emory University School of Medicine
Atlanta, GA.
- 05/05-07/06 Assistant Professor of Radiology
Emory University School of Medicine
Atlanta, GA.
- 07/97-06/99 Staff Physician, Department of Medicine
Henry Ford Hospital, Detroit, MI.

POSITIONS HELD OVERSEAS

- Locum Physician, National Health Service, UK 12/90-07/91
- Medical Officer, Omar Hospital, Lahore, Pakistan 04/88-06/88

SPECIAL RESPONSIBILITIES

08/06 – present	Director, Cardiovascular CT & MR Imaging University of Kentucky, Lexington, KY.
05/04-07/06	Director of Cardiac Imaging The Emory Clinic & Emory University Hospital, Atlanta, GA.
07/01 – 06/02	Chief Fellow Cardiology Henry Ford Heart & Vascular Institute, Detroit, MI
2000	Sub-Investigator at Henry Ford Hospital, NICE 3 Trial
1999-2002	Reader, ECG Core Laboratory Vasoflux in Acute Myocardial Infarction Trial (VITAL) LIMIT AMI Trial STEP AMI Trial Northfield Blood Substitute Study
1994	Registrar, Department of Medicine Queens Park Hospital, Blackburn, UK

ELECTED COMMITTEE POSITIONS/COMMITTEE ASSIGNMENTS

2006	Design Development Imaging User Group, New Hospital Development Project, University of Kentucky, Lexington, KY
2005, 2006	Cardiology Fellowship Selection Committee, Emory University School of Medicine, Atlanta, GA
1999-2002	Cardiology Fellowship Selection Committee, Henry Ford Heart & Vascular Institute, Detroit, MI
2003	ACC affiliates representative, Shape the future of Cardiovascular Education: Self Assessment Programs (SAP) American College of Cardiology, Bethesda, MD

MANUSCRIPT REVIEWER

Journal of the American College of Cardiology

Journal of Cardiovascular Magnetic Resonance

Journal of Magnetic Resonance Imaging

Cleveland Clinic Journal of Medicine

INVITED LECTURES

Topic: CMR Research Symposium,
Division of Cardiology, 05/14/2006
Emory University Hospital, Atlanta, GA.

Topic: Role of coronary CTA in contemporary cardiology practice
Department of Medicine Grand Rounds, 05/13/2006,
Grady Memorial Hospital, Atlanta, GA.

Topic: Technological Advances in Cardiac Imaging
Emory CME Symposium, 04/06/06
Atlanta, GA.

Topic: An Introduction to Cardiovascular MR & CT
Nappa Valley Cardiovascular Symposium, 03/23/06 – 03/24/06
St. Helena, California

Topic: CMR Perfusion
Division of Cardiology Grand Rounds 12/12/2005
Emory University School of Medicine, Atlanta, GA.

Topic: 64-Slice CT: clinical application and our initial experience
Division of Cardiology Grand Rounds 10/17/2005
Emory University School of Medicine, Atlanta, GA.

Topic: Cardiovascular MRI
Department of Medicine Grand Rounds, 07/09/2005
The Children Hospital & Institute of Child Health, Lahore, Pakistan

Topic: Cardiac CT – State of the Art
Cardiology Grand Rounds, 07/06/2005

Punjab Institute of Cardiology, Lahore, Pakistan

Topic: Cardiovascular MRI & CT

Cardiology Grand Rounds, 07/01/2005

The Agha Khan University Hospital, Karachi, Pakistan

Topic: MRI of the Coronary Arteries: Ready for Primetime?

Emory Symposium on Coronary Atherosclerosis Prevention & Education (ESCAPE)

06/11/2005 – 06/15/2005, Amelia Island Plantation, Amelia Island, Florida.

Topic: Role of Cardiovascular MRI in Clinical Trials

Emory Cardiovascular Outcomes Research (ECOR) Grand Rounds 03/25/2005

Atlanta, GA.

Topic: Infarct Imaging & Viability: Is MRI the new “Gold Standard”

Department of Medicine Grand Rounds, 03/10/2005

Grady Memorial Hospital of Emory University, Atlanta, GA.

Topic: Cardiac MRI & CT

Board Review Course, 02/16/2005

Department of Radiology

Emory University School of Medicine, Atlanta, GA.

Topic: New advances in Cardiac Imaging: MRI & CT

Cardiology Update for Primary Care: 11/12/2004,

Emory University School of Medicine, Atlanta, GA.

Topic: Stress CMR

Cardiology Grand Rounds: 10/18/2004

Emory University School of Medicine, Atlanta, GA.

Topic: CMR: Infarct & Viability Imaging

Cardiology Grand Rounds: 09/20/2004

Emory University School of Medicine, Atlanta, GA.

Topic: Cardiac MRI: Comprehensive evaluation of coronary artery disease

Cardiology Grand Rounds: 06/17/2003

Henry Ford Heart & Vascular Institute, Detroit, MI.

Topic: Racial differences in the management of acute MI

17th GE Medical Systems IT Algorithms Seminar: 10/15/2000-10/17/2000

Scottsdale, AZ

TEACHING EXPERIENCE

Faculty – Sophomore Cardiology Elective
Emory University School of Medicine, Spring 2005 & 2006

Preceptor - Sophomore Clinical Methods Class
Fall Semester 2004 & 2005
Emory University School of Medicine

Course organizer - Cardiac MRI/CT Course (weekly didactic course Oct-June)
Emory University Hospital
2004-05, 2005-06

PROFESSIONAL SOCIETIES/ORGANIZATIONS

Founding Member, Society of Cardiovascular Computed Tomography	2005
Founding Member, Association of Pakistani Cardiologists of North America (APCNA)	2003
Society of Cardiovascular Magnetic Resonance	2000
American College of Cardiology	1999
Association of Pakistani Physicians of North America (APPNA)	1997

BIBLIOGRAPHY

ORIGINAL REPORTS and OTHER PEER REVIEWED ARTICLES

1. Srineni G, Kalra MK, Pottala K, Waldrop S, **Syed M**, Tigges S. Effect of Contrast Concentration, Tube Potential and Reconstruction Kernels on MDCT Evaluation of Coronary Stents: An In Vitro Study. International J Cardiovasc Imaging (in press)
2. **Syed M**, Carlson K, Murphy M, Ingkanisorn P, Rhoads K, Arai A. Safety of Cardiac Magnetic Resonance Imaging in the First Few Days after Bare Metal Stent Implantation. J Magn Reson Imaging 2006 (in press)
3. Ingkanisorn P, Kwong R, Bohme NS, Geller NL, Rhoads KL, Dyke CK, Paterson DI, **Syed M**, Aletras AH, Arai AE. Prognosis of Negative Adenosine Stress Magnetic Resonance in Patients Presenting to an Emergency Department with Chest Pain. J Am Coll Cardiol 2006;47:1427-32.
4. **Syed M**, Paterson I, Ingkanisorn P, Rhoads K, Hill J, Cannon III RA, Arai A.

Reproducibility and inter-observer variability of dobutamine stress MRI: implications for clinical trials. *J Cardiovasc Magn Reson* 2005;7(5):763-8

5. **Syed M**, Peters DC, Rashid H, Arai AE. Pulmonary Vein Imaging: Comparison of 3-D Magnetic Resonance Angiography with 2-D Cine MR for Characterizing Anatomy and Size. *J Cardiovasc Magn Reson* 2005;7:355-60
6. Hill J, **Syed M**, Arai A, Powell T, Paul J, Zalos G, Read E, Khuu H, Leitman S, McDonald H, Csako G, Dunbar C, Waclawiw M, Cannon R. Outcomes and Risks of Granulocyte Colony-Stimulating Factor Administration to Patients with Severe Coronary Artery Disease. *J Am Coll Cardiol* 2005;46:1643-48
7. Peters DC, Ennis DB, Rohatgi P, **Syed M**, McVeigh ER, Arai AE. 3D Breath-Held Cardiac Function With Projection Reconstruction in Steady State Free Precession Validated Using 2D Cine MRI. *J Magn Reson Imaging* 2004;20:411-416.
8. **Syed M**, Borzak S, Asfour A, Gunda M, Obeidat O, Murphy S, Gibbons R, Gourlay S, Barron H, Weaver W, Hudson M. Single lead ST-segment recovery: A simple, reliable measure of successful fibrinolysis after acute myocardial infarction *Am Heart J* 2004;147:275-80.
9. Angeja BG, Gunda M, Murphy S, Sobel BE, Rundle AC, **Syed M**, Asfour A, Borzak S, Gourley SG, Barron HV, Gibbons RJ, Gibson CM. TIMI myocardial perfusion grade and ST segment resolution: association with infarct size as assessed by single photon emission computed tomography imaging. *Circulation* 2002;105:282-285.
10. **Syed M**, Khaja F, Rybicki B, Wulbrecht N, Alam M, Sabbah H, Goldstein S, Borzak S. Effect of delay on racial differences in thrombolysis for acute myocardial infarction. *Am Heart J.* 2000; 140:643-650.
11. Manhapra A, Khaja F, **Syed M**, Rybicki B, Wulbrecht N, Alam M, Sabbah H, Goldstein S, Borzak S. Electrocardiographic presentation of blacks with first myocardial infarction does not explain race differences in thrombolysis administration. *Am Heart J.* 2000; 140:200-205
12. **Syed M**, Malki Q, Kazmouz G, Kharrat H, Abbas A, Jacobsen G, Jafri S. Usefulness of exercise echocardiography in predicting cardiac events in an outpatient population. *Am J Cardiol.* 1998; 82:569-573.

REVIEW ARTICLES

13. **Syed M.** Cardiovascular MRI: Overview and Current Applications. Hospital Physician Cardiology Board Review Manual. 2006 (in press)
14. Sirineni GKR, Kalra MKS, Pottala KM, Tigges S, **Syed M**, Cann AD. Visualization techniques in CT coronary angiography. JCAT 2006 (in press)
15. **Syed M**, Borzak S, Jafri S. Angiotensin Converting Enzyme Inhibition after acute myocardial infarction with special reference to the Fourth International Study of Infarct Survival (ISIS-4). Prog Cardiovasc Dis. 1996; 39(2):201-206.
16. **Syed M**, Lesch M. Coronary artery aneurysm: a review. Prog Cardiovasc Dis. 1997; 40:77-84.
17. **Syed M**, Borzak S. Key References: Role of ACE inhibition in acute coronary syndromes. J of Thromb Thrombolysis. 2000; 9(1):107-109.

CASE REPORTS

1. **Syed M**, Del Busto R. Gastric Plasmacytoma: A rare tumor with an unusual presentation. Presented at the annual scientific meeting. American College of Physicians-Michigan Chapter, Grand Traverse Resort, September 1996.
2. **Syed M**, Lesch M. Coronary Artery Aneurysm: A therapeutic dilemma. Presented at the annual scientific meeting. American College of Physicians- Michigan Chapter, Grand Traverse Resort, September 1995.

ABSTRACTS

1. Sharma P, Socolow J, **Syed M**, Oshinski JN. Comparison of delayed enhancement image quality at 1.5T and 3T. SCMR Miami, FL. January 2006.
2. Sharma P, **Syed M**, Oshinski JN. A multiple spin preparation technique for arrhythmia insensitive delayed enhancement imaging. SCMR Miami, FL. January 2006.
3. Sirineni GKR, Pottala KM, Kalra MK, Cann A, **Syed M**, Johnson K, Tigges S. Effect of Varying Tube-potential on Assessment of Coronary Stents using 64-slice MDCT: An In Vitro Study. 33rd Annual meeting & scientific sessions of The North American Society for Cardiac Imaging, Amelia Island, FL. Oct. 8-12, 2005. (3rd prize in poster competition)

4. Pottala KM, Sirineni GKR, Kalra MK, Cann A, **Syed M**, Tigges S. Imaging of Coronary Anomalies by MDCT Angiography. 33rd Annual meeting & scientific sessions of The North American Society for Cardiac Imaging, Amelia Island, FL. Oct. 8-12, 2005.
5. Sharma P, **Syed M**, Lerakis S, Oshinski JO. Post-Contrast T 1 Measurements of Blood, Infarct and Normal Myocardium at 1.5T and 3T. ISMRM, Miami, FL, May 2005.
6. **Syed M**, Carlson K, Murphy M, Arai A. Safety of magnetic resonance imaging in the first few days after primary angioplasty/stenting for acute myocardial infarction. AHA annual scientific sessions, New Orleans, LA. November 2004. (Finalist Poster competition)
7. Hill J, **Syed M**, Arai A, Powell T, Paul J, Zalos G, Read E, Khuu H, Leitman S, Horne M, Csako G, Dunbar C, Cannon R. Outcomes of granulocyte colony stimulating factor administration to patients with severe coronary artery disease. AHA annual scientific sessions, New Orleans, LA. November 2004.
8. Ingkanisorn P, Rhoads K, Hirsch G, Block M, Lowrey T, **Syed M**, Arai A. Sensitivity of dipyridamole CMR for the assessment of intermediate severity coronary artery disease. AHA annual scientific sessions, New Orleans, LA. November 2004.
9. Ingkanisorn P, Rhoads K, **Syed M**, Dyke C, Kellman P, Aletras A, Arai A. Fat suppression improves image quality and diagnostic accuracy of EPI first pass perfusion. ISMRM annual sessions, Kyoto, Japan, June 2004.
10. **Syed M**, Paterson I, Rhoads K, Ingkanisorn P, Dyke C, Arai A. Feasibility of combined perfusion and function assessment compared to perfusion alone by dipyridamole stress MRI. Society for Cardiovascular Magnetic Resonance annual meeting, Barcelona, Spain, February 2004
11. **Syed M**, Ingkanisorn P, Rhoads K, Paterson I, Hill J, Cannon R, Arai A. Reproducibility of dobutamine stress MRI and implications for clinical trials. Society for Cardiovascular Magnetic Resonance annual meeting, Barcelona, Spain, February 2004.
12. Ennis D, **Syed M**, Rohatgi P, McVeigh E, Arai A, Peters D. Validation of a single breath hold three-dimensional projection reconstruction steady state free precession magnetic resonance method for cardiac function evaluation. Society for Cardiovascular Magnetic Resonance annual meeting, Barcelona, Spain, February 2004.
13. Roads K, Hsu L, Ingkanisorn P, Dyke C, **Syed M**, Kansal P, Aletras A, Arai A. The limits of quantifiable differences in dipyridamole stress MRI myocardial perfusion defects in humans subjects with coronary artery disease. Society for Cardiovascular Magnetic Resonance annual meeting, Barcelona, Spain, February 2004

14. **Syed M**, Ingkanisorn P, Agyman K, Paterson I, Arai A. Comparison of myocardial perfusion with regional wall motion in symptom limited high dose dobutamine-atropine stress MRI. ISMRM, annual scientific sessions, Toronto, Canada, June 2003.
15. **Syed M**, Peters D, Arai A. 3D MR angiography overestimates pulmonary vein diameter as compared to 2D cine MRI. Sixth Annual meeting of The Society for Cardiovascular Magnetic Resonance, February 7-9, 2003, Orlando, FL
16. **Syed M**, Asfour A, Gunda M, Obeidat O, Hudson M, Gourley SG, Barron H, Weaver WD, Borzak S. Single lead ST recovery predicts reperfusion as well as the sum of ST segments: a better predictor of patency. American Heart Association Scientific Sessions, November 11-14, 2001.
17. French JK, Moons A, Borzak S, Peters R, White HD, Weaver WD, Gibson M, Christenson R, Gunda M, Asfour A, **Syed M**. A slow increase in myoglobin levels at 60 mins best predicts failure to achieve TIMI 3 flow after thrombolysis. American Heart Association Scientific Sessions, November 11-14, 2001.
18. **Syed M**, Malki Q, Kazmouz G, Jacobsen G, Jafri S. Stress echocardiography has no incremental prognostic value over stress ECG in patients with no prior history of coronary artery disease and normal baseline ECG. American College of Cardiology Michigan chapter annual meeting, Grand Traverse Resort, MI, October 12-14, 2001.
19. Malki Q, **Syed M**, Kazmouz, Kharrat H, Abbas A, Jafri S. The long term prognostic value of negative exercise echocardiography in an outpatient population. 12th Annual Scientific Sessions, American Society of Echocardiography, June 2001.
20. Manhapra AJ, Khaja F, Rybicki B, Wulbrecht N, **Syed M**, Alam M, Borzak S. Racial differences in thrombolytic therapy for MI: an effect of ECG eligibility? *Circulation* 1998; 98: I-98.
21. **Syed M**, Rybicki B, Wulbrecht N, Alam M, Sabbah H, Goldstein S, Khaja F, Borzak S. Racial differences in clinical presentation of myocardial infarction may explain differences in thrombolysis. *Chest* 1997; 112(Suppl):23S. (Winner Young Investigator Award)
22. Malki Q, **Syed M**, Kazmouz G, Kharrat H, Abbas A, Jacobsen G, Jafri S. Prognostic value of exercise echocardiography in an outpatient population. 8th Annual Scientific Sessions, American Society of Echocardiography June 1997.

GRANT SUPPORT

1. Sponsor: Novartis
Grant Period: 12/2004 – 12/2006
Title: Effect of Valsartan on endothelial function, oxidative stress, carotid atherosclerosis, and endothelial progenitor cells (EFFERVESCENT)
Principal investigator: Arshed Quyyumi, M.D.
Co-Investigator: Mushabbar A. Syed, M.D.
2. Sponsor: Amorceyte, Inc.
Grant Period: 05/2006 – 05/2007
Title: A Phase 1 Trial of Intra-coronary Infusion of Bone Marrow Derived Autologous CD34⁺ Selected Cells in Patients with Acute Myocardial Infarction
Co-investigator and MRI core Lab: Mushabbar A. Syed, M.D.
3. Sponsor: Emory University Teaching Fund
Grant Period: 2005-2006
Title: Cardiovascular MRI & CT Teaching Course.
Principal Investigator: Mushabbar A. Syed, M.D.
6. Sponsor: National Heart, Lung, & Blood Institute, National Institutes of Health
Grant Period: 07/01/2002 – 06/30/2004
Title: Cardiovascular MRI Training Grant
Principal investigator: Andrew E. Arai, M.D.
7. Sponsor: Genentech
Grant Period: 09/01/1998 - 03/30/2000
Title: Safety and efficacy of rhuMab CD18 in acute myocardial infarction
ECG Core Lab: Steven Borzak, M.D.
Mushabbar A. Syed, M.D.