

# Dr Akhil Kapur

## Curriculum Vitae



**Name:** *Akhil Kapur*

### **EDUCATION AND QUALIFICATIONS**

City of London School 1974 - 1982

University of Sheffield 1984 – 1990

1980-82 3 A grade “A” Levels, 1 S level, 14 “O” Levels 9 As 5 Bs

1984-90 MB ChB

1988 BMedSci (Hons) Clinical Physiology 2:1

1994 MRCP (UK)

2003 CCST in Cardiology & General Internal Medicine

2004 MD NHLI, Imperial College, London

### **MAIN PRESENT POST**

Consultant Interventional Cardiologist

London Chest Hospital

Barts and the London NHS Trust

## **PRIZES AND AWARDS**

1986	Distinction in Biochemistry
1987	Swann Morton elective award
1987	Medical Research Council award
1989	Medical Council on Alcoholism prize
1996	Amersham award
1998	Young Investigator Finalist British Nuclear Medicine Society
1999	ICSM award for best clinical tutor in medicine
2003	London Intervention Research award finalist
2003	Travel Fellowship Clinique Pasteur Toulouse

## **PREVIOUS POSTS**

2003-4	Senior SpR in Cardiology, Hammersmith Hospital Dr D Lefroy, Dr JP Bagger
Jul-Nov '03	Interventional Cardiology Fellow, Clinique Pasteur, Toulouse Dr J Fajadet, Prof J Marco
2002-3	Senior SpR in Cardiology, Hammersmith Hospital Prof RJ Hall, Dr GJ Davies, Prof JS Kooner
2000-2	Interventional Research Fellow in Cardiology, Hammersmith Hospital, London Dr KJ Beatt and Prof RJ Hall
1999-2000	Specialist Registrar in Cardiology, Hammersmith Hospital Dr KJ Beatt, Dr P Nihoyannopoulos and Dr S Gibbs
1998-9	Specialist Registrar in General Internal Medicine, Cardiology and Clinical Pharmacology, Hammersmith Hospital Prof J McDermott and Prof M Wilkins
1996-8	Research Fellow in Cardiology, Royal Brompton Hospital, London Prof SR Underwood, Dr K Fox, Dr J Somerville
1995-6	Registrar in Cardiology, Glenfield Hospital, Leicester Dr AH Gershlick, Prof D de Bono, Dr D Skehan

- 1992-4 University Hospital, Nottingham SHO Medical Rotation  
6 months Cardiology; Prof JR Hampton, Prof R Wilcox  
3 months Respiratory Med; Dr W Kinnear, Dr I Johnstone  
3 months Hepatology; Dr P Toghill  
3 months Clinical Pharmacology, Prof P Rubin  
3 months Gastroenterology, Prof I Hawkey
- 1992 Radcliffe Hospitals, Oxford  
6 months SHO Renal Medicine; Dr Oliver, Dr Winearls
- 1991-2 St George's Hospital, London  
6 months SHO Cardiology; Prof J Camm, Dr D Redwood
- 1991 House Surgeon (General and Neuro)  
Royal Hallamshire Hospital, Medical School, Sheffield  
Prof Johnson, Mr Forster
- 1990-1 House Physician (General/ Hepatology/Oncology), Royal  
Hallamshire Hospital Medical School, Sheffield  
Prof DR Triger, Prof Hancock

## **CLINICAL EXPERIENCE**

### **Interventional Cardiology**

#### ***London Chest Hospital***

At both London Chest and St Barts I undertake an average of two days of intervention at a rate of over 300 angioplasties a year including supervising a interventions undertaken by the registrars. Our institution as a whole currently performs over 3000 angioplasties a year. My main interests in the cath lab are angioplasty via the transradial route, the use of rotablation, distal protection and optimal revascularisation of the diabetic patient.

#### ***Hammersmith***

As a senior specialist registrar at Hammersmith I undertook 5 fixed sessions predominantly in percutaneous intervention in the cardiac catheter laboratory each week and work with three interventionists. In addition I organised the

SpR commitments in the cath lab and was the SpR representative on the catheter laboratory steering group.

Prior to this I spent two years as an interventional research fellow where I had 3 fixed sessions in the cardiac catheter lab a week working predominantly with Dr Kevin Beatt.

During the year 1999 – 2000 I was the nominated interventional trainee and undertook 4 fixed sessions in the cath lab being trained in PCI.

### ***Clinique Pasteur, Toulouse***

In Toulouse I was solely based in the cardiac catheter lab. I learnt radial angioplasty, consolidated my experience of complex angioplasty including the use of devices adjunctive to angioplasty and undertook some peripheral angioplasty. I was very privileged to work on a daily basis with Dr Jean Fajadet an excellent operator and tutor and assisted him in live case transmissions.

### ***Interventional Procedural Experience***

I am fully trained in coronary angioplasty and have now been first operator in over 1600 PCIs. I learnt radial angioplasty with Dr Jean Fajadet at the Clinique Pasteur in Toulouse undertaking just over 250 radial angioplasties while there. I have fairly extensive experience in primary and salvage angioplasty, in treating chronic total occlusions, bifurcation lesions, vein graft disease and restenosis. I am proficient in techniques including direct coronary atherectomy and rotablation. I am experienced in the use of QCA in both the research and clinical setting. I am also experienced in the use of distal protection devices including angioguard and the filter wire, use IVUS routinely and have some experience in the use of pressure wire systems.

### ***Interventional Peripheral Experience***

I have had some exposure to peripheral intervention and have undertaken or assisted in several renal angioplasties (20), carotid angioplasty (12) and femoral/iliac angioplasty (6).

### ***Interventional Trial Experience***

(co) PI and study director CARDia  
local investigator for eCYPHER registry  
Recruitment for  
SOS  
ARTS 2  
TYPHOON  
ENDEAVOR 2  
HYDRA

### ***Interventional Device Experience***

IVUS  
Protection devices - Filter wire and angioguard  
Covered stents – Symbiot  
Atherectomy – rotablation and DCA

### **Other Cardiology Procedural Experience**

#### ***Cardiac Pacing and device therapy***

I have implanted over 150, mainly dual-chamber, permanent pacemaker systems. I am experienced in biventricular pacing and defibrillator implantation. I supervised the fortnightly defibrillator clinic for a year.

### ***Cardiac catheterisation: diagnostic***

I have performed over 1500 diagnostic cardiac catheters as first operator and am experienced in operating from the femoral, brachial and radial approaches. I currently train the junior specialist registrars in both diagnostic and interventional procedures.

### ***Transthoracic echocardiography***

I have performed over 1000 and reported over 2000 two-dimensional and Doppler echocardiograms.

### ***Transoesophageal echocardiography***

I have been performing transoesophageal studies for over 4 years and have been first operator and principal reporter in over 200 studies, as well as being present during many more procedures. At present I supervise the TOE service and train the junior specialist registrars.

## **Cardiology**

As a senior specialist registrar at Hammersmith Hospital my duties involved a daily in-patient ward round and 2 weekly out-patient clinics as well as giving cardiology opinions to other departments within the hospital. In addition I supervise junior specialist registrars in transthoracic and transoesophageal echocardiography as well as in diagnostic cardiac catheterisation and coronary angioplasty. I co-ordinate the cardiology clinical service and am involved in making use of the cath lab database to facilitate clinical audit and clinical governance.

During my time at Hammersmith I have spent 1 year doing clinics at West Middlesex Hospital and 6 months at Ealing Hospital both busy district general hospitals with mixed populations. I would also see cardiology referrals on clinic days.

During my year as a cardiology registrar at the Glenfield Hospital I had 2-3 cardiac catheter sessions, one pacing session and one echo session per week. In addition, with the SHO, I was responsible for the immediate

management of in-patients under our care and I attended 2 out-patient clinics a week. I was on-call 1 day in 5, receiving cardiac problems referred by district general hospitals.

As a cardiology registrar at Pilgrim Hospital I was responsible for the day to day management of the cardiology patients on our firm. I also gave cardiology opinions for other medical firms and non-medical specialities. I reported routine transthoracic echocardiograms performed in the department and provided an emergency echo service.

As a cardiology specialist registrar at Hammersmith I had a 1 in 6 on call commitment in cardiology and general medicine. During this on call period I was responsible for the CCU and for cardiology admissions and opinions. I would also perform urgent transthoracic and transoesophageal echocardiograms when required. I attended a daily senior registrar-led cardiology in-patient ward round and was asked to give cardiology opinions on patients of other teams. Also, I attended weekly general cardiology clinics and I had weekly cardiac catheterisation and transoesophageal sessions as well as additional sessions in PCI during my year as the nominated interventional trainee.

As a senior house officer I spent 6 months doing cardiology at the University Hospital, Nottingham where I admitted patients directly from Aand E and via direct GP referrals. In contrast during my 6 months at St George's, London, which is a tertiary referral centre we were responsible for admissions from other referring hospitals. Here I also received some experience in the management of cardiac transplant patients.

## **MANAGEMENT**

One of the greatest tasks I have undertaken was to conceive and set up the CARDia (Coronary Artery Revascularisation in Diabetes) Trial. With the help of Dr Kevin Beatt and the support of Professor Roger Hall I raised the funding, overcame several obstacles including national ethics approval, recruited staff and collaborators and set up a national electronic network of data collection. Currently I am the study director and co principal investigator for the trial, which involves 21 centres throughout the United Kingdom, and am on the steering committee. I recruited the study coordinator and the research assistants who work on the study and I oversee their work.

I am involved in coordinating the cardiology service at the Hammersmith Hospital. I am the SpR representative on the cath lab steering group, the clinical governance committee and the consultants committee. I have been, together with the cardiac services manager, organizing the latest waiting list initiative for elective coronary angiography and for inpatient transfers.

Within the hospital I sit on the Local Negotiating Committee as the BMA SpR representative.

## **INFORMATION TECHNOLOGY AND DATABASES**

One of my aims in the CARDia Trial was to set up a paperfree, electronic data collection system. This we have done by giving each centre a laptop through which they can download encrypted data through the NHSNet to our central server which is protected by a firewall and is backed up.

I have extensive experience in the management of databases having used them in several studies and am particularly familiar with Access. I am currently the local investigator for the eCypher study through which electronic data on Cypher stenting are being collected through the internet.



## **RESEARCH FOR MD THESIS**

**TITLE:** Multivessel Coronary Artery Revascularisation in Diabetes

When I arrived at Hammersmith Hospital in 1998 I conceived and set up the BART (Bypass Angioplasty Registry in Type 1/2 diabetes) study, which is a prospective study of all diabetics with multivessel disease presenting between 1998 and 2001. One year mortality and further revascularisation outcomes of this study have now been analysed with follow up, including a link I set up to the Office of National Statistics, 97% complete.

Concurrent with this I conceived the CARDia Trial, which is a randomised study comparing optimal angioplasty with modern surgery in diabetics with multivessel coronary disease and is now being conducted in 21 participating centres throughout the United Kingdom with one quarter of recruitment already undertaken. It is designed to take account of emergent technologies and a randomisation to drug eluting stents within the PCI arm has been incorporated

I also undertook a study of all patients undergoing elective coronary angiography to determine the number of undiagnosed diabetics and the burden of insulin resistance (biochemical and clinical) amongst these patients. The aim was also to further define the relationship between insulin resistance, inflammation, severity of coronary disease and outcome.

All three of these studies comprise a large part of my thesis but will have ongoing elements following its submission.

## **PUBLICATIONS IN JOURNALS**

**Kapur A**, Ryden L, Stenestrand U, Montalescot G, Van Belle E, Grant P  
Identification and Management of Type 2 Diabetes in patients with Acute  
Coronary Syndromes and Myocardial Infarction. *Diabetologia* 2005 (in press)

**Kapur A**, Malik IS, Bagger JP, Anderson JR, Kooner JS, Thomas M,  
Punjabi P, Mayet J, Millane T, Goedicke J, Jamrozik K, de Belder MA,  
Hall RJ, Beatt KJ The Coronary Artery Revascularisation in Diabetes  
(CARDia) trial: background, aims, and design. *Am Heart J* 2005  
January;149(1):13-9

Beatt KJ, Morgan KP, **Kapur A**. Revascularisation in diabetics with  
multivessel coronary artery disease. *Heart* 2004 September;90(9):999-1002

Morgan KP, **Kapur A**, Beatt KJ. Anatomy of coronary disease in diabetic  
patients: an explanation for poorer outcomes after percutaneous coronary  
intervention and potential target for intervention. *Heart* 2004 July;90(7):732-8

**Kapur A**, Bartolini D, Beatt KJ. Has anything changed in multivessel coronary  
artery revascularization in diabetes since BARI? *Ital Heart J* 2004  
May;5(5):358-63

**Kapur A**, Malik IS, Bagger JP, Anderson JR, Beatt KJ, Hall RJC, for the  
CARDia Investigators The Coronary Artery Revascularisation in Diabetes  
(CARDia) trial (protocol): a prospective, randomised comparison of optimal  
coronary angioplasty with use of stenting and abciximab recommended versus  
up to date coronary artery bypass grafting in patients with diabetes mellitus  
suitable for either intervention *Heart* 2003; 89: 550.

**Kapur A**, Beatt K.J. Why do we need the CARDia Trial? *Br J Cardiol (Acute  
and Interv Cardiol)* 2003; 10:AIC 37 – AIC 40

**Kapur, A., Malik I.S.,** Is surgery still the preferred option for coronary revascularisation in diabetics with multivessel coronary disease?  
Heart 2002; 87: 407-409.

**Kapur A, Latus KA, Davies G, Dhawan RT, Eastick S, Jarritt PH et al.** A comparison of three radionuclide myocardial perfusion tracers in clinical practice: the ROBUST study. Eur J Nucl Med 2002; 29:1608-1616.

**Kapur, A., Kooner J.S.,** Therapeutics of Unstable Angina and non ST-segment myocardial infarction CME Cardiology 2002; 2(1): 31-44

**Kapur, A., Wild, G., Milford Ward, A., Triger, D R.,** Carbohydrate Deficient Transferrin: A Marker for Chronic Alcohol Abuse. British Medical Journal 1989; 299:427-431

**Kapur, A., Wild, G., Triger, A** New Marker for Chronic Alcohol Abuse? (German) Medical Tribune 1990; 28:4

## **PAPERS SUBMITTED**

**Kapur, A., Bartolini, D., Bagger, J.P., Mostafavi, E., Rickard, M.C., Jamrozik, K., Wang, D., Flather, M., Hall, R.J. Beatt K.J.** Is Coronary Artery Surgery Still The Treatment Of Choice in Patients with (BARI type) Multivessel Disease? Results from the BART (Bypass Angioplasty Registry in Type 1/2 diabetes) study: a prospective registry 1998 to 2001 JACC

## **PAPERS IN PREPARATION**

**Kapur, A., Morgan, K., Scheepers, M., Rickard, MC , Beatt K.J. Hall R.J.** The Burden of Undiagnosed Diabetes and Insulin Resistance in the Cardiac Catheter Laboratory.

Ethnic differences in diabetic patients with multivessel coronary disease:  
Indian Asians versus White Europeans – results from a prospective registry  
from 1998 to 2001

## **PRESENTATIONS TO LEARNED SOCIETIES AND PUBLISHED ABSTRACTS**

Joao Silveira, **Akhil Kapur**, Antoine Sauguet, Bruno Farah, Jean Fajadet,  
Jean Marco Acute Coronary Syndrome is the commonest form of  
presentation of restenosis in patients with and without diabetes TCT 2004

**Kapur**, A., Bartolini, D., Mostafavi E., Rickard, MC, Hall, RJ, Beatt K.J. Do  
Advances in PCI Threaten CABG as the Treatment of Choice in Diabetics with  
BARI type Multivessel Disease? One year follow up from a Prospective  
Registry for AHA Orlando 2003

**Kapur**, A., Bartolini, D., Mostafavi E., Rickard, MC, Hall, RJ, Beatt K.J.  
Percutaneous coronary intervention versus coronary bypass surgery in  
diabetes - 1 year follow up results from a prospective registry 1998 -2001.  
22971 ESC Vienna 2003

**Kapur**, A., Bartolini, D., Mostafavi E., Rickard, MC, Hall, RJ, Beatt K.J.  
A comparison of diabetic multivessel coronary disease in Indian Asians versus  
white Europeans - results from a prospective registry 1998 to 2001. 27611  
ESC Vienna 2003

**Kapur**, A., Bartolini, D., Mostafavi E., Rickard, MC, Hall, RJ, Beatt K.J. Ethnic  
differences in diabetics with multivessel coronary disease: Indian Asians  
versus White Europeans – results from a prospective registry from 1998 to  
2001. EASD Paris 2003

Bartolini, D., **Kapur**, A., Mostafavi E., Rickard, MC, Hall, RJ, Beatt K.J. BART (Bypass Angioplasty Registry Type I-II Diabetes): 1 year follow up results from a prospective study. EASD Paris 2003

**Kapur**, A., Bartolini, D., Mostafavi E., Beatt K.J. Is Coronary Artery Surgery Still the Treatment of Choice in diabetics with multivessel disease? Results from a prospective registry 1998 to 2000 Heart 89 [suppl 1], A 19 2003  
Glasgow, British Cardiac Society.

**Kapur**, A., Bartolini, D., Mostafavi E., Beatt K.J. Can Coronary Angioplasty be a real alternative to coronary artery surgery in diabetics with multivessel disease? Results from a prospective registry 1998 to 2000 306 P1646 23 ESC 2002

**Kapur**, A., Malik, I., Bagger, JP., Anderson, J., Hall R.J., and Beatt K.J. Determining Optimal Revascularisation in Diabetes: The Design Of The CARDia (Coronary Artery Revascularisation in Diabetes) Trial TCT  
Washington American Journal of Cardiology 2002

Bartolini, D., **Kapur**, A., Mostafavi E., Beatt K.J. Coronary Angioplasty – a real alternative to coronary artery surgery in diabetics with multivessel disease? Results from a prospective registry 1998 to 2000 A376 38 PS101 1169 EASD 2002

**Kapur** A, Latus KA, Davies G, Jarritt PH, Young MC, Roussakis G et al. A randomised comparison of MIBI and tetrofosmin for myocardial perfusion imaging with and without a fatty meal before imaging. Journal of Nuclear Medicine 40, 343. 1999. Anaheim, USA, Society of Nuclear Medicine Annual Congress.

**Kapur** A, Latus KA, Davies G, Jarritt PH, Young MC, Roussakis G et al. The ROBUST study: a randomised comparison of three tracers for myocardial perfusion imaging. Nucl.Med.Comm. 19[4], 369-370. 1998. Brighton, UK, British Nuclear Medicine Society.

**Kapur A**, Latus KA, Davies G, Jarritt PH, Young MC, Roussakis G et al. The ROBUST study: a randomised comparison of three tracers for myocardial perfusion scintigraphy. *Heart* 81[suppl 1], P38. 1999. Manchester, British Cardiac Society.

**Kapur A**, Latus KA, Davies G, Jarritt PH, Young MC, Roussakis G et al. The ROBUST study: a randomised comparison of three tracers for myocardial perfusion scintigraphy. *Journal of Nuclear Medicine* 40, 344. 1999. Anaheim, USA, Society of Nuclear Medicine Annual Congress.

**Kapur A**, Latus KA, Davies G, Jarritt PH, Young MC, Roussakis G et al. The ROBUST study: A Randomised Comparison of Three Tracers for Myocardial Perfusion Scintigraphy. *Eur.J.Nucl.Med.* 28[8], 997. 30-8-1998. Berlin, European Association of Nuclear Medicine.

Dhawan RT, Benson K, Roussakis G, **Kapur A**, Latus KA, Pennell DJ et al. Abnormal myocardial perfusion scintigraphy in patients with chronic airways disease stressed by dobutamine. *Eur.J.Nucl.Med.* 24, 1016. 1997. Glasgow, UK, European Association of Nuclear Medicine.

**Kapur A.**, Wild, G., Triger, D R., Carbohydrate Deficient Transferrin – a specific test for detecting alcohol abuse. *Gut* 1988; A1495

## **ABSTRACTS SUBMITTED**

**Akhil Kapur**, Kenneth Morgan, Marie Claire Rickard, Ezzat Mostafavi, Feng Zhang, Kevin Beatt, Roger Hall The Extent of Undiagnosed Diabetes and the Relevance of Insulin Resistance in patients undergoing Elective Coronary Angiography ACC

## **CASE REPORTS AND OTHER ARTICLES**

Melikian, N., **Kapur**, A., Kemp, S., Smith, P., Glynn P, and Baker C Sinus of Valsalva aneurysm rupture – a rare condition with common presenting features Lancet (submitted)

**Kapur, A.**, Curzen N Drug Eluting Stents and NICE Hospital Doctor

## **INVITED PRESENTATIONS**

Chaired session at Royal college of Physicians on Acute Coronary Syndromes London Feb 2005

Underutilisation of cardiovascular treatment in patients with diabetes  
Diabetes Interventional Working Group Rome 2004

Considerations for the contemporary management of multivessel disease in diabetics Diabetes Interventional Working Group Paris 2003

Drug Eluting Stents in Diabetes Second Diabetes and Coronary Heart Disease Symposium Hammersmith Hospital Nov 2003

CARDia Trial Update First Diabetes and Coronary Heart Disease Symposium Wolfson Conference Centre Hammersmith Hospital Nov 2002

Hammersmith Echocardiology – Investigations in the diagnosis of Thoracic Aortic Dissection – One is not enough Wolfson Conference Centre Hammersmith Hospital Jun 2000

As part of my role in the CARDia trial I have given several presentations on the background and design of CARDia at institutions throughout the country

## **GRANTS AWARDED**

1987 MRC award Carbohydrate deficient transferrin: a marker for chronic alcohol abuse?

1996 Amersham Award A comparison between three radioisotopes used in myocardial perfusion imaging

1999 Hammersmith Hospitals Special Trustees A prospective registry for multivessel coronary artery revascularisation in diabetes

2000 Boston Scientific £30 000 towards the CARDia Trial development costs

2001 Eli Lilly £585 000 towards the CARDia Trial organization plus £300 000 worth of product

2001BMS/Sanofi £90 000 towards the CARDia Trial

2001Medtronic £20 000 towards the CARDia Trial

2001Guidant £10 000 towards the CARDia Trial

2003 Takeda £20 000 Identification of 1 Insulin Resistance in patients with and without diabetes 2/Undiagnosed Diabetes in patients undergoing routine coronary angiography.

## **MEMBERSHIP OF SOCIETIES**

British Cardiovascular Intervention Society

British Society of Echocardiography

Royal College of Physicians

## **COMMITTEES**

Steering Group CARDia Trial

Diabetes and Coronary Heart Disease Symposium Organising Committee

International Society for Diabetes and Vascular Disease founding member

BMA LNC

Barts and the London Consultants committee

Clinical Efficiency Group Barts and the London

Cath lab steering group



## **REFEREE FOR PEER REVIEWED JOURNALS**

Heart

European Heart Journal

Diabetes and Vascular Disease Research

## **FUTURE PLANS**

I will continue to be involved in the CARDia Trial. Two thirds of the patients have been recruited and it is expected that recruitment will complete in 2006 with preliminary results shortly thereafter. Since the presentation of encouraging diabetic subset data from SIRIUS at ACC 2003 we have expanded the use of drug eluting stents to the whole of the PCI arm.

I also have a grant application in for a study looking at the effect of insulin resistance in non-diabetic patients on restenosis and outcomes post PCI and one looking at glucose abnormalities in South Asians with coronary disease.

One other aim I have is to set up a direct access clinic for the diagnosis and management of diabetic coronary disease, which would provide a service to diabetologists and confront the special requirements of this high risk group of patients.

## **OTHER INTERESTS**

### **LANGUAGES**

French, Spanish, and Hindi

My French and Spanish were mainly learnt by living and working for six months in France and six months in Spain and Mexico.

## **SPORTS**

Football – Played for medical school – continue to play with departmental or hospital teams

Skiing and diving.

## **REFEREES**

Dr KJ Beatt PhD FRCP  
Consultant Cardiologist  
Hammersmith Hospital

Professor JS Kooner MD FRCP  
Consultant Cardiologist  
Hammersmith Hospital

Dr Jean Fajadet  
Unite Interventional Cardiologie  
Clinique Pasteur  
Ave Lombard  
Toulouse  
France