



British Hypertension Society

Annual Scientific Meeting 2009



14th - 16th September 2009
St. John's College, Cambridge

Final
Programme



The British Hypertension Society would like to express its gratitude to Novartis Pharmaceuticals UK Ltd. for providing an unrestricted educational grant towards the costs of the meeting



BRITISH HYPERTENSION SOCIETY

Annual Scientific Meeting

14th – 16th September 2009
St. John's College, Cambridge

Executive Committee:

President:	Professor G.T. McInnes
Vice-President:	Professor M.J. Caulfield
Secretary:	Dr. A.J.B. Brady
Treasurer:	Professor F.P. Cappuccio
Ordinary Members:	Professor S.H.D. Jackson Professor G. McVeigh Professor D.R.J. Singer Dr. A.D. Watson

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BHS Collaborative Research:	Professor M.J. Brown
BHS Educational Programmes:	Dr. J. McLay
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WELCOME

Dear Colleague,

On behalf of the Executive Committee, I have great pleasure in welcoming you to the Annual Scientific Meeting of the British Hypertension Society.

The Executive Committee offers thanks to BHS members and their colleagues who have submitted abstracts for inclusion in the programme this year. The Committee is particularly grateful to those members of the Society who have assisted in the difficult task of reviewing the abstracts and compiling the programme.

Only the top scoring abstracts have been accepted for oral or poster presentation at this year's meeting. In addition to the free communications, the programme includes clinical case presentations, the latest news from clinical trials and reviews of the management of high blood pressure in children and adolescents and in chronic kidney disease.

I am delighted to welcome Professor Sir Michael Marmot, who will be giving this year's Pickering Lecture on the topic of Social Determinants and the Global Cardiovascular Epidemic, together with our other overseas speakers, Professors Stephen Harrap and Thomas Unger. This year, for the first time, a small number of places at the meeting have been allocated to members of the High Blood Pressure Research Council of Australia, and I extend special greetings to our Australian friends.

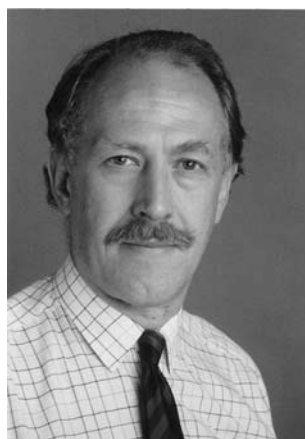
The Society is once again pleased to be joined by members of the Nurses Hypertension Association, who will hold their meeting in parallel, but will participate in key sessions with the Society.

The British Hypertension Society is indebted to **Novartis Pharmaceuticals UK Ltd** for providing an unrestricted educational grant towards the costs of this meeting.

I look forward to a stimulating and enjoyable conference.



Professor Gordon McInnes
President



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GENERAL INFORMATION

Venue:

St. John's College
Cambridge, CB2 1TP

Tel: 01223 338600 (Porters' Lodge)
01223 337714 (Registration Desk during the conference)
Fax: 01223 337718 (for incoming faxes during the conference)
Website: www.joh.cam.ac.uk

CPD Accreditation:

This event, Code Number 50667, has been approved for External Credit (13 Clinical Credits) for the CPD Scheme of the Federation of Royal Colleges of Physicians of the UK. Physicians wishing to claim CPD accreditation should sign the Attendance Register in the Palmerston Lecture Theatre.

Oral Presentations:

British Hypertension Society lectures will take place in the Palmerston Lecture Theatre.

Nurses Hypertension Association lectures will take place in the NHA Marquee adjacent to the Fisher Building.

Poster Presentations:

Posters will be displayed for the whole meeting. Presenters will be available for discussion during the chaired Poster Discussion Session from 10.30 – 12.00 hrs on Wednesday 16th September.

Journal of Human Hypertension:

Please note that, at the request of the authors, the following abstracts will not be published in the Journal of Human Hypertension: Orals 2.1 and 5.6 Posters: PA.1, PC.3 and PE.3

Young Investigators' Prizes:

Orals: *BHS Young Investigator's Oral Prizes*
Abstracts shortlisted for these prizes will be given in Session 2 (16.30 – 18.00 hrs on Monday 14th September) and Session 3 (09.00 – 10.30 hrs on Tuesday 15th September).
The winners will be announced at the Conference Dinner on Tuesday 15th September.

Posters: *The BHS Jack Ledingham Young Investigator's Poster Prize*
Abstracts eligible for this prize (indicated with an asterisk in the Programme) will be presented in the Poster Discussion Session at 10.30 hrs on Wednesday 16th September.
The winner will be announced at the end of the meeting.

Internet Access:

Wireless internet access is available in the Fisher Building (location for the BHS Lectures, exhibition and Registration Desk). Computers are also available for delegates to use (free of charge) in the Drawing Room (1st Floor, Fisher Building).

10.00 – 12.30

Arrival of delegates and registration

12.30 – 14.30

Lunch, Dining Hall

14.30 – 16.00

SESSION 1: Clinical Cases

Chair: **Gordon McInnes** (Glasgow)

An interactive voting system will be used during this session

14.30-14.42 1.1 Concordance issues
D. Rutherford (Dundee)

14.42-14.47 Discussion

14.47-14.52 Commentary
T. MacDonald (Dundee)

14.52-15.04 1.2 Spurious hypertension
S. Akunuri (London)

15.04-15.09 Discussion

15.09-15.14 Commentary
P. Sever (London)

15.14-15.26 1.3 Secondary hypertension
C. Sze (London)

15.26-15.31 Discussion

15.31-15.36 Commentary
M.J. Caulfield (London)

15.36-15.48 1.4 Diabetes
D.P. Macfarlane (Dundee)

15.48-15.53 Discussion

15.53-15.58 Commentary
J. Petrie (Dundee)

16.00 – 16.30

Tea

16.30 – 18.00

SESSION 2: Submitted Abstracts

**Abstracts eligible for a BHS Young Investigator's Oral Prize*

Chair: **Adrian Brady** (Glasgow)

16.30-16.40 2.1* Mendelian randomization for drug target validation: separating mechanism-based and off-target effects of torcetrapib
R. Sofat, A. Hingorani, L. Smeeth, P. Talmud, S. Humphries, J. Deanfield, CETP Genetics Collaboration, J.P. Casas (London)

16.40-16.45 Discussion

SCIENTIFIC PROGRAMME: Mon 14th – Tues 15th September 2009

- 16.45-16.55 2.2 Effects of infant growth, notably skinfold size, on blood pressure in early childhood
N. Bansal, A. Vyas, F. Khan, I. Gemmell, P. Clayton, **J.K. Cruickshank** (Manchester)
- 16.55-17.00 Discussion
- 17.00-17.10 2.3* Targeted anti-oxidant therapy in a model of hypertension and stroke
J.A. Greig, R. Shirley, D. Graham, K. Gilday, E. Ruoslahti, L. Denby, A.F. Dominiczak, L.M. Work, A.H. Baker (Glasgow and San Diego)
- 17.10-17.15 Discussion
- 17.15-17.25 2.4* Resting heart rate pattern during follow-up and mortality in hypertensive patients
L. Paul, C. Hastie, G.T. McInnes, S. Padmanabhan (Glasgow)
- 17.25-17.30 Discussion
- 17.30-17.40 2.5* Aldosterone and fat: understanding the effects of aldosterone on the anticontractile properties of adipose tissue
S. Withers, C. Agabiti-Rosei, A.S. Greenstein, R. Aslam, K. Khavandi, R.A. Malik, A.M. Heagerty (Manchester and Brescia)
- 17.40-17.45 Discussion
- 17.45-17.55 2.6* Self blood pressure monitoring is the future of hypertension management
N. McGowan, P. Padfield (Edinburgh)
- 17.55-18.00 Discussion

19.30 – 20.30 *Dinner, Dining Hall*

20.30 – 21.30 **Post-Dinner Debate** (Dining Hall)

Title: **This house believes that obesity is self-inflicted and does not merit medical intervention**

Chair: **Mark Caulfield** (London)

For: **Gareth Beevers** (Birmingham)

Against: **Stephen O’Rahilly** (Cambridge)

An interactive voting system will be used during this session

Tuesday 15th September 2009

07.30 – 09.00 Breakfast, Buttery

09.00 – 10.30 **SESSION 3: Submitted Abstracts**

**Abstracts eligible for a BHS Young Investigator’s Oral Prize*

Chair: **Gary McVeigh** (Belfast)

- 09.00-09.10 3.1* In vivo evidence that SPAK is a new regulator of blood pressure
A. Mercier Zuber, F.H. Rafiqi, M. Glover, D.R. Alessi, K.M. O’Shaughnessy (Cambridge and Dundee)

09.10-09.15 Discussion

09.15-09.25	3.2*	Mechanism of regulation of Na ⁺ transport by angiotensin II in human adrenocortical cells E.A. Azizan , T.J. Burton, M.J. Brown (Cambridge)
09.25-09.30		Discussion
09.30-09.40	3.3*	The thiazide-sensitive Na-Cl cotransporter in the distal nephron (NCCT) is regulated by both kinases and phosphatases M. Glover , K.M. O'Shaughnessy (Cambridge)
09.40-09.45		Discussion
09.45-09.55	3.4*	MitoQ ₁₀ reduces mitochondrial reactive oxygen species (ROS) production and AMP-activated protein kinase (AMPK) activity in vessels from patients with type 2 diabetes and coronary artery disease (CAD) R.M. Mackenzie , C.A. Hamilton, W.H. Miller, I.P. Salt, M.P. Murphy, C. Delles, A.F. Dominiczak (Glasgow and Cambridge)
09.55-10.00		Discussion
10.00-10.10	3.5*	Regional age-related changes in aortic pulse wave velocity measured using magnetic resonance imaging S.S. Hickson , M. Butlin, R. Black, M. Graves, I.B. Wilkinson, C.M. McEniery (Cambridge and Sydney)
10.10-10.15		Discussion
10.15-10.25	3.6*	Common genetic polymorphisms alter 11 β -hydroxylase and aldosterone synthase transcription in the human adrenal cortex S.M. MacKenzie , P.M. Stewart, G.D. Hammer, P-F Plouin, R. Fraser, J.M.C. Connell, E. Davies (Glasgow, Birmingham, Ann Arbor and Paris)
10.25-10.30		Discussion
10.30 – 11.00		<i>Coffee</i>
11.00 – 11.45		SESSION 4: Submitted Abstracts Chair: Stephen Jackson (London)
11.00-11.10	4.1	Relationship between preterm delivery and subsequent C-reactive protein and ischaemic heart disease risk C.E. Hastie , G.C.S. Smith, J.P. Pell (Glasgow and Cambridge)
11.10-11.15		Discussion
11.15-11.25	4.2	Ang II-induced hypotension in females is AT2R mediated and estrogen dependent A. Sampson , K. Moritz, E. Jones, R. Widdop, K. Denton (Melbourne and Brisbane)
11.25-11.30		Discussion
11.30-11.40	4.3	High salt intake predicts strokes and cardiovascular events: a meta-analysis of prospective studies P. Strazzullo, L. D'Elia, N-B Kandala, F.P. Cappuccio (Coventry and Naples)
11.40-11.45		Discussion

11.50 – 12.50

SIR GEORGE PICKERING LECTURE

Chair: **Gordon McInnes**

Social Determinants and the Global Cardiovascular Epidemic

Professor Sir Michael Marmot (London)

*Professor Sir Michael G. Marmot MBBS, MPH, PhD, FRCP, FFPHM, FMedSci, FBA
Director, International Institute for Society and Health
MRC Research Professor of Epidemiology and Public Health, University
College London*



Michael Marmot has led a research group on health inequalities for the past 30 years. He is Principal Investigator of the Whitehall Studies of British civil servants, investigating explanations for the striking inverse social gradient in morbidity and mortality. He leads the English Longitudinal Study of Ageing (ELSA) and is engaged in several international research efforts on the social determinants of health. He chairs the Department of Health Scientific Reference Group on tackling health inequalities. He was a member of the Royal Commission on Environmental Pollution for six years and is an honorary fellow of the British Academy.

In 2000 he was knighted by Her Majesty The Queen for services to Epidemiology and understanding health inequalities. Internationally acclaimed, Professor Marmot is a Vice President of the Academia Europaea, a Foreign Associate Member of the Institute of Medicine (IOM), and was Chair of the Commission on Social Determinants of Health set up by the World Health Organization in 2005. He won the Balzan Prize for Epidemiology in 2004, gave the Harveian Oration in 2006 and won the William B. Graham Prize for Health Services Research in 2008. He is currently conducting a review of health inequalities at the request of the British Government.

13.00 – 14.15

Lunch, Dining Hall

14.15 – 15.45

SESSION 5: Submitted Abstracts

Chair: **Donald Singer** (Coventry)

- | | | |
|-------------|-----|--|
| 14.15-14.25 | 5.1 | Value of routine plasma renin assay in the detection, treatment-titration or cure of low-renin patients with salt-dependent hypertension
S.J. Hood, D.E. Picton, K.P. Taylor, M.J. Brown (Cambridge) |
| 14.25-14.30 | | Discussion |
| 14.30-14.40 | 5.2 | The cardiovascular profile of an intermediate phenotype: the importance of small artery myogenic autoregulation in patients with metabolic syndrome
B. Park, A.S. Greenstein , M. Luckie, R. Khattar, S.B. Withers, R.A. Malik, A.M. Heagerty (Manchester) |
| 14.40-14.45 | | Discussion |
| 14.45-14.55 | 5.3 | Aldosterone and sodium excess associate with albuminuria and glomerular hyperfiltration in a severely hypertensive cohort from the MRC BRIGHT Study
E.M. Freel, F. McManus , R. Fraser, A.F. Dominiczak, E. Davies, J.M.C. Connell (Glasgow) |
| 14.55-15.00 | | Discussion |

15.00-15.10 5.4 ASCORE: an up-to-date cardiovascular risk score for hypertensive patients reflecting contemporary clinical practices developed using the ASCOT trial database
D. Prieto-Merino, A.K. Gupta, J. Dobson, C.L. Chang, **S. Mastorantonakis**, P.S. Sever, B. Dahlöf, H. Wedel, S. Pocock, N.R. Poulter (London and Goteborg)

15.10-15.15 Discussion

15.15-15.25 5.5 Confirmation that a polymorphism in the distal enhancer of the renin gene, REN-5312C/T, is associated with elevated blood pressure
C. Vangjeli, N. Clarke, U. Quinn, P. Dicker, O. Tighe, C. Ho, E. O'Brien, A. Stanton (Dublin)

15.25-15.30 Discussion

15.30-15.40 5.6 Antiretroviral drugs are associated with raised blood pressure in young HIV positive adults
S.L. Wilson, G. Scullard, S. Fidler, J.N. Weber, N.R. Poulter (London)

15.40-15.45 Discussion

15.45 – 16.15 Tea

16.15 – 17.25 **SESSION 6: Invited Speakers**

Chair: **Mark Caulfield** (London)

16.15-16.40 6.1 New directions in antihypertensive therapy
Thomas Unger (Berlin)

16.40-16.50 Discussion

16.50-17.15 6.2 Reprogramming the genetic predisposition to hypertension
Stephen Harrap (Melbourne)

17.15-17.25 Discussion

17.25 – 18.15 hrs **Annual Business Meeting** (BHS Members only)

19.15 Reception

20.00 Conference Dinner

Awards: BHS Oral Young Investigators' Prizes
High BP Research Council of Australia Award Winner
NHA Best Abstract Prize
NHA Best Case Presentation Prize

SCIENTIFIC PROGRAMME: Wednesday 16th September 2009

07.30 – 09.00 Breakfast, Buttery

09.00 – 10.30 **SESSION 7: Latest News from Clinical Trials**

Chair: **Francesco Cappuccio** (Coventry)

09.00-09.10 7.1 ACCOMPLISH
S. Ball (Leeds)

09.10-09.15 Discussion

09.15-09.25 7.2 TRANSCEND
B. Williams (Leicester)

09.25-09.30 Discussion

09.30-09.40 7.3 PROFESS
P. Bath (Nottingham)

09.40-09.45 Discussion

09.45-09.55 7.4 BRIGHT
M.J. Caulfield (London)

09.55-10.00 Discussion

10.00-10.10 7.5 POPADAD
T. MacDonald (Dundee)

10.10-10.15 Discussion

10.15-10.25 7.6 ASCOT
E. O'Brien (Dublin)

10.25-10.30 Discussion

10.30 – 12.00 **Coffee and Poster Discussion Session**

Poster Group

		Chair
PA	Clinical Trials and Clinical Studies	A. Heagerty
PB	Haemodynamics and BP Measurement	A. Stanton
PC	Cardiovascular Physiology and Pharmacology	A. Dominiczak
PD	Basic Science	J. Petrie
PE	Endocrine and Metabolic Studies	J. Ritter

12.00 – 13.00 **SESSION 8: 'How to' Session**

Chair: **Alex Watson** (Dundee)

12.00-12.20 How to manage high blood pressure in children and adolescents
J. Deal (London)

12.20-12.30 Discussion

12.30-12.50 How to manage high blood pressure in chronic kidney disease
A. Jardine (Glasgow)

12.50-13.00 Discussion

13.00 Award: The BHS Jack Ledingham Young Investigator's Poster Prize
Close of Meeting and Lunch

POSTER PRESENTATIONS

* Posters marked with an asterisk are eligible to be considered for The BHS Jack Ledingham Young Investigator's Poster Prize

Posters PA Clinical Trials and Clinical Studies

Chair: A. Heagerty

- PA.1 Impact of lifestyle changes during 5 years of drug treatment in the Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT)
D.J. Collier, T.J. Stride, X. He, S.L. Wilson, J.I. Shiel, M.J. Caulfield (London)
- PA.2 Blood pressure lowering efficacy of direct renin inhibitors (aliskiren) in resistant hypertension – an observational study from UK primary care
B. Williams, P.S. Lacy, A.G. Stanley (Leicester)
- PA.3 Darusentan treatment significantly decreases blood pressure and results in better systolic blood pressure control when added to multi-drug therapy in patients with resistant hypertension
L.H. Lindholm, H.R. Black, G.L. Bakris, S.L. Linas, H. Krum, R. Weiss, J.V. Linseman, B.L. Wiens, M.S. Warren, M. Weber (Umea, New York, Chicago, Denver, Melbourne, Auburn, Boulder and Brooklyn)
- PA.4 Relationship between therapeutic changes in blood pressure and outcomes in acute stroke: a meta-regression
C.M. Geeganage, P.M.W. Bath (Nottingham)
- PA.5* Hypokalaemic hypertension due to a rare cause
M. Vidyarthi, Y. Balakumar, I. Perry, D. Berney, S. Bhattacharya, M. Lobo, G. Rull, W.M. Drake, M.J. Caulfield, S.A. Akker (London)

Posters PB Haemodynamics and BP Measurement

Chair: A. Stanton

- PB.1 Carotid artery stiffness is only one tenth that of aortic artery stiffness as assessed by pulse wave velocity
C.M. Brown, C. Duffy, D. Ilea, P.F. Whelan, A.V. Stanton (Dublin)
- PB.2 Flow mediated dilatation of the radial artery is offset by flow-induced reduction in transmural pressure
B. Jiang, M. Seddon, P. Chowienczyk (London)
- PB.3* Wavelet analysis of blood velocity waveforms discriminates microvascular abnormalities in type 1 diabetes following O₂ inhalation
A.J. McCann, C.J. Lockhart, C.E. Agnew, P.K. Hamilton, G.E. McVeigh, R.C. McGivern (Belfast)
- PB.4 Microalbuminuria, left ventricular hypertrophy and overt cardiovascular disease in treated non-diabetic hypertension
S.J. Cleland, A. Devries, J. Webster, M.J.L. Peters, N. Sattar, G.T. McInnes (Glasgow and Aberdeen)
- PB.5* Changes in whole blood gene expression in patients with coronary artery disease following rehabilitation programme
C. Taurino, W.H. Miller, M.W. McBride, J.D. McClure, R. Khanin, M.U. Moreno, J.A. Dymott, C. Delles, A.F. Dominiczak (Glasgow)

Posters PC Cardiovascular Physiology and Pharmacology

Chair: A. Dominiczak

- PC.1 Right and left arm blood pressure variability: a manifestation of 'white-coat' effect?
U. Martin, R. Holder, R.J. McManus (Birmingham)
- PC.2* Comprehensive interrogation of pulse waveforms identifies hidden microvascular abnormalities in type 1 diabetes mellitus
P.K. Hamilton, A. McCann, V. McClenaghan, R.C. McGivern, G.E. McVeigh (Belfast)
- PC.3* Reduced availability of NO axis parameters adversely influences vessel wall characteristics in South Asian stroke survivors compared to European Caucasians in the United Kingdom
A. Gunarathne, E.A. Hughes, G.Y.H. Lip (Birmingham)
- PC.4* Selective dilatation of muscular arteries is an effective strategy to reduce central pulse pressure in women and does not act through reduction in central arterial stiffness
M. Cecelja, K. Patel, T. Spector, P. Chowienczyk (London)
- PC.5* Integrins are involved in vascular mechanics of WKY but not SHR mesenteric arteries, which become less stiff and develop outward hypertrophic remodelling with aging
K.R. Parmar, E.H. Heerkens, A.M. Heagerty (Manchester)

Posters PD Basic Science

Chair: J. Petrie

- PD.1 A single nucleotide polymorphism in the gene encoding fibrinogen beta chain is associated with hypertension
B.M.Y. Cheung, K.L. Ong, A.W.K. Tso, K.S.L. Lam, C.Q. Jiang, G.N. Thomas, T.H. Lam (Birmingham, Hong Kong and Guangzhou)
- PD.2 Patterns of conserved miRNA expression in kidney tissue: human and rodent studies
W.H. Miller, M.W. McBride, J.D. McClure, D. Graham, M. Tomaszewski, A.F. Dominiczak (Glasgow and Leicester)
- PD.3 High fidelity phenotypic analysis of chromosome 3 congenic strains reveals independent loci for haemodynamic regulation
H.H.C. Koh-Tan, **D. Graham**, J. McClure, K. Gilday, A.F. Dominiczak (Glasgow)
- PD.4 Up regulation of inflammation and cell adhesion related genes in mononuclear cells of patients with coronary artery disease
C. Delles, M.U. Moreno, W.H. Miller, M.W. McBride, J.D. McClure, C. Taurino, U. Neisius, A.F. Dominiczak (Glasgow)
- PD.5* Angiotensin1-9 antagonises prohypertensive signalling in cardiomyocytes via the angiotensin type 2 receptor
M. Flores-Muñoz, A.H. Baker, S.A. Nicklin (Glasgow)
- PD.6 Dissecting microRNA and mRNA regulatory networks in cardiac hypertrophy
M.W. McBride, J.D. McClure, K. Gilday, R. Khanin, K. Maratou, T.J. Aitman, D. Graham, A.F. Dominiczak (Glasgow and London)

Posters PE Endocrine and Metabolic Studies

Chair: J. Ritter

- PE.1 Early metabolic changes with thiazide therapy for essential hypertension. Results of open label extension study comparison with amiloride
A.J. Stears, M.M. Watts, S. Woods, J. Graggaber, T. Burton, K.S. Myint, M.J. Brown (Cambridge)
- PE.2* How common are functional adenomas affecting blood pressure in adrenal 'incidentalomas' found on hospital scanning?
M. Jameel, S. Lee, J.K. Cruickshank (Manchester)
- PE.3 20-hydroxy eicosatrienoic acid synthesis in human platelets and neutrophils and the role of angiotensin II and endothelin-1
I.J. Tsai, **A. Barden**, K.D. Croft, I.B. Puddey, L.J. Beilin (Perth)
- PE.4* Pre- and post-captopril renal scintigraphy as a screening test for renovascular hypertension in children
S. Abdulsamea, L. Biassoni, P. Anderson, S. Marks, D. Roebuck, C. McLaren, E. Brennan, S. Selim, K. Tullus (London and Benha)



BHS

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