

THE ADAPT CENTRE
&
BLOOD PRESSURE UNIT

Beaumont Hospital

ANNUAL REPORT, PUBLICATIONS

AND

SCIENTIFIC PRESENTATIONS

2002

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Introduction

History

The Blood Pressure Unit was founded in 1978 in the Charitable Infirmary, Jervis Street, with support provided by the Charitable Infirmary and the Royal College of Surgeons in Ireland. From the outset the Unit has concentrated on research into the pharmacology of blood pressure lowering drugs, particularly in the elderly, and on the development of blood pressure measuring techniques, especially techniques of ambulatory blood pressure measurement. To-date over 500 publications on these research areas have been produced by the Unit in peer-reviewed journals.

ADAPT Clinic and Centre

The Arterial Disease Assessment Prevention and Treatment (ADAPT) Clinic was established in collaboration with Professor David Bouchier-Hayes and Professor Desmond Fitzgerald in 1997. The rationale for this unique clinic was based on the concept that disease of the arterial organ was a fundamental denominator in all cardiovascular disease. The ADAPT Clinic was established to ensure that all patients with cardiovascular disease, regardless of the speciality to which they presented, received the most comprehensive risk factor assessment with appropriate life-style modification, and that appropriate drug treatment would be directed at the arterial organ.

The ADAPT concept was further developed in 1999 with the establishment of the ADAPT Centre. This cardiovascular laboratory is equipped to perform state-of-the-art cardiovascular assessment, which includes echocardiography, electrocardiography with stress testing, Holter monitoring, applanation tonometry, pulse wave velocity analysis, 24-hour ambulatory blood pressure monitoring, beat-to-beat non-invasive blood pressure monitoring, 24-hour silent ischaemia monitoring, fundal photography and imaging, and carotid wall (intima-media thickness) imaging. Through its association with the Department of Clinical Pharmacology, SURGEN and BIOSYS at RCSI, the Laboratory can assess biochemical and genetic markers of risk, thrombosis and endothelial damage.

The ADAPT centre is under the direction of Professor O'Brien. Senior staff include Professor Desmond Fitzgerald, Professor David Bouchier-Hayes, Dr. Patricia McCormack, Dr. Alice Stanton and Dr. Joan Moroney, and the Centre is staffed by three research registrars, five research nurses, a technician, computer analyst and two secretaries.

The goal of ADAPT is to apply common protocols of risk factor management to all patients with cardiovascular disease. This has been achieved for patients with hypertension, dyslipidaemia, surgical vascular disease, stroke and transient cerebral ischaemic events and the elderly with hypertension. This year the ADAPT concept was extended to patients with diabetes and this collaboration with Dr. Christopher Thompson is a welcome development. As a consequence of these ADAPT developments the out-patient service continued to grow with over 13,000 patients attending the Blood Pressure, the Elderly with Hypertension, Stroke/TIA, Lipid, Cardiac and ADAPT Clinics.

Clinical Research Centre

The ADAPT Centre continued its close collaboration with the Clinical Research Centre, and I am pleased to acknowledge with gratitude the considerable help given to ADAPT personnel by the Director of the CRC, Dr. Dermot Kenny, not only in providing research facilities, but also in making it possible to welcome and entertain overseas visitors in the Board Room. The ADAPT Centre continued to participate in the successful HEA grant awards, which will fund scientific research in the Centre.

DABL[®] Program

The efficient out-patient management of cardiovascular disease has been achieved by utilising a management system that is dependent on a specially designed computer program – *dabl*[®] Cardiovascular, which has been developed over the past decade. During the year this program was further developed by ECF Medical Ltd., to include many additional functions, such as automatic generation of drug treatment and diagnoses, a flow chart, a pharmacopoea, a scheduling system and security features. The *dabl*[®] Anticoagulant program was used to transfer 700 of 2000 patients attending the Anticoagulant Clinic from a manual to computerised system and the

remaining patients will be transferred shortly. The *dabl*[®] Program has also been applied to a number of research projects being conducted by the ADAPT Centre.

The RHASP Project

The ADAPT Centre has collaborated with the Department of Health in linking the *dabl* Program with the HealthLink program so as to be able to transmit information on cardiovascular risk from specialist hospital clinics to primary care physicians. A pilot study using the *dabl* and HealthLink programs to stratify patients in the North Eastern Health Board area into high, medium and low risk categories commenced in September. Named the RHASP (Reduction of Heart Attack and Stroke through Prevention) Study, the project aims to establish joint clinics with primary care physicians so as to be able to determine if such categorisation will permit the more rational allocation of resources in an effort to reduce Ireland's burden of cardiovascular disease, which is one of the highest in Europe.

Publications and communications

In 2001 the ADAPT Centre continued to contribute to hypertension research, publishing more than 20 scientific papers, and delivering research presentations at home, in the UK, the Netherlands, Italy, Japan and the United States.

International collaborative research

The ADAPT Centre continued to participate in a number of important international collaborative studies, which included the ASCOT Study (*vide infra*); the Syst-Eur Phase II Study, a follow-up study of the original Syst-Eur Study to determine if calcium-channel blocking drugs are beneficial in the long-term management of isolated systolic hypertension; the Ova Study, which is designed to determine if ambulatory blood pressure measurement is superior to office blood pressure in the long-term management of hypertension; the THOP Study, which is designed to show if less antihypertensive medication will be prescribed using self-blood pressure measurement rather than office blood pressure; the HYVET Study, which is examining the value of treating hypertension in the very elderly; and the ADVANCE Study, which explores the value of both better blood pressure and glycaemic control in non insulin dependent diabetes mellitus. During the year the results of the PROGRESS Study, in which the ADAPT Centre was the only Irish participant, were published in the *Lancet* showing that ACE inhibition prevents stroke. Participation in these studies has necessitated collaborative research with a number of institutions and universities abroad; these include St. Mary's Hospital, London, the University of Louvain, the University of Ghent, the Hammersmith Hospital, Glasgow University, the University of Auckland and Mount Sinai Hospital in New York.

ASCOT Study

The Anglo-Scandinavian Cardiovascular Outcome Trial (ASCOT) is the largest international endeavour in which we have participated. ASCOT has recruited over 20,000 patients at high risk from cardiovascular complications of hypertension to determine which blood pressure lowering or cholesterol-lowering drug is most beneficial in preventing stroke and heart attack. Dr. Alice Stanton has supervised a team of doctors and nurses specially recruited for the ASCOT programme. The ADAPT Centre, which is one of the major centres (with over 500 participating patients) in ASCOT, was informed in October 2002 that the data monitoring committee had issued a directive to close the lipid arm of the study because the benefit to patients receiving statin treatment was of the order of 30% reduction in heart attack and 25% in stroke compared with those patients receiving placebo. This finding has major implications for the future management of cardiovascular disease. The main blood pressure limb of the ASCOT Study continues as previously but now a number of analyses, including some genetic analyses, can proceed.

Epidemiological research projects

The Allied Irish Bank, Phase II Study, was completed during the year with detailed cardiovascular data having been obtained from over 441 subjects. These data, which are now being analysed, will provide information for the first time on the changes in 24-hour ambulatory blood pressure with age and the relationship of such change to target organ status.

The ADAPT Centre data base contains comprehensive blood pressure data on over 26,000 patients. These data are being analysed in relation to cardiovascular outcome to determine which blood pressure variable is best related to cardiovascular mortality.

Other research projects conducted during the year included:

- role of silent ischaemia in left ventricular hypertrophy
- influence of blood pressure variability on outcome in the elderly
- assessment of retinal microvascular geometry in health and disease
- development and validation of a novel assay of microvascular endothelial function
- genetics of hypertension, vascular damage and cardiovascular events

Working Parties

I continued to act during the year as Chairman of the Blood Pressure Measurement Working Group of the European Society of Hypertension. Dr. Alice Stanon took over the Chairmanship of the Irish Heart Foundation Council on High Blood Pressure. I continue as a member of the EU Standards Committee on Blood Pressure Measurement, the British Standards Institute and the Association for the Advancement of Medical Instrumentation in the US. I am a member of the ASCOT Steering Committee and Chairman of the ASCOT Sub-study Committee, and Professor Desmond Fitzgerald and Dr. Alice Stanton are members of the ASCOT Genetics Committee.

Servier Chair of Cardiovascular Pharmacology

The Servier Chair of Cardiovascular Pharmacology, to which I was appointed, was established in April 2001 in a partnership between the Institute of Biopharmaceutical Sciences at the Royal College of Surgeons in Ireland and the Servier Group, Paris. The Chair was endowed with the purpose of facilitating research into the treatment and management of cardiovascular disease with a particular emphasis on risk factor management and the identification of techniques to measure of cardiovascular target organ involvement. Much of the research activity in this report can be attributed to the facilities provided by the Chair.

ADAPT website

The ADAPT web site (http://www.ecf.ie/adapt_website) provides a comprehensive bibliography of publications from the Blood Pressure Unit since 1978 and it is possible to obtain PDF copies of recently published papers; frequently requested papers from earlier years are also available. The site also provides details on the *dabl*[®] Program and the ADAPT risk factor management system.

Acknowledgements

The research outlined in this report was facilitated by a grant from the Charitable Infirmary Charitable Trust, which has given valuable support to our research over many years and without which our many achievements would not have been possible. Research has also been funded by grants from Imperial College, London, Astra Zeneca, Servier Laboratories and Speedel Ltd, all of which we acknowledge with gratitude. I would like to pay tribute to the diligence and loyalty of all the staff in the Blood Pressure Unit and the ADAPT Centre, characteristics, which facilitate the team approach so necessary in scientific research. Finally, I wish to acknowledge the importance of the facility provided for our research work in the Clinical Investigation Area of the Hospital.

Eoin O'Brien

31st December 2002

The ADAPT Centre & Blood Pressure Unit

Staff 2002

Medical

Eoin O'Brien	Milos Stojanovic
Desmond Fitzgerald	Emily Ho
David Bouchier-Hayes	Ailsa Fulton
Alice Stanton	Basil Al Aloul
Joan Moroney	Eamonn Dolan
Patricia McCormack	Cianan O'Sullivan

Blood Pressure Unit Nursing

Evelyn Clark	Cora McTiernan
Dee Stoneman	Helen O'Neill

ADAPT Centre Nursing

David Farrell	Geraldine McCarthy
Louise Hacke	Cathal Collier
Alison Walsh	Anne Murphy
Mary Twohill	

Technical

<i>Echocardiographer</i>	<i>Computer Analyst</i>
Simon Lyons	Neil Atkins
<i>Dieticians</i>	
Patricia Gordon / Daniel McCartney	

Secretarial

Valerie Hughes	Eunice Carey
Barbara Gallagher	Orla Lambe
Kim Smyth	

PUBLICATIONS

in

2002

SCIENTIFIC AND EDUCATIONAL PUBLICATIONS 2002

Original papers

1. Verdecchia P, Staessen JA, White WB, Imai Y, O'Brien ET. Properly defining white coat hypertension. *Eur Heart J* 2001;**23**:106-109
2. O'Brien E. Validation Up-date. *Blood Press Monit* 2001;**6**:275-280
3. O'Brien E, van Montfrans G, Palatini P, Tochikubo O, Staessen J, Shirasaki O, Lipicky R, Myers M. Task Force I: Methodological aspects of blood pressure measurement. Sendai. *Blood Press Monit* 2001;**6**:313-315
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5. O'Brien E, Pickering T, Asmar R, Myers M, Parati G, Staessen J, Mengden T, Imai Y, Waeber B, Palatini P with the statistical assistance of Atkins N and Gerin W on behalf of the Working Group on Blood Pressure Monitoring of the European Society of Hypertension. International protocol for validation of blood pressure measuring devices in adults. *Blood Press Monit* 2002;**7**:3-17
6. Staessen JA, Celis H, Thijs L, Den Hond E, Giot C, Leeman M, O'Brien E, Vandenhoven G, Fagard R on behalf of the THOP investigators Comparison of conventional and automated blood pressure measurements: interim analysis of the THOP trial. *Blood Press Monit* 2002;**7**:61-62
7. Starmans-Kool MJ, Stanton AV, Zhao S, Xu YX, Thom SAM, Hughes AD. Measurement of hemodynamics in human carotid artery using ultrasound and computational fluid dynamics. *J Appl Physiol* 2002; **92**: 957-61.
8. Stanton AV, Mayet J, Chapman N, Foale RA, Hughes AD, Thom SAM. Ethnic differences in carotid and left ventricular hypertrophy. *J Hypertens* 2002; **20**: 1-5.
9. O'Brien E. Recommendations for devices for measuring ambulatory blood pressure based on validation evidence. *Nefrologia* 2002;**xxii** (Suppl 3):3-6
10. Kuznetsova T, Staessen J, Kawecka-Jaszcz K, Babeanu S, Casiglia E, Filipovsky J, Nachev C, Nikitin Y, Peleska, O'Brien E on behalf of the EPOGH investigators. Quality control of the blood pressure phenotype in the European Project on Genes in Hypertension. *Blood Pressure Monit* 2002;**7**:215-224
11. Gerin W, Schwartz AR, Schwartz JE, Pickering TG, Davidson KW, Bress J, O'Brien E, Atkins N. Limitations of current validation protocols for home blood pressure monitors for individual patients. *Blood Pressure Monit* 2002;**7**:313-318
12. Kelly LA, Carroll P, McCormack P, O'Neill D. Timing of hospital presentation and delays in assessment in acute stroke. *J Ir Coll Phys Surg* 2002; **31**: 73-76.

Syst-Eur Trial Publications

13. Wingfield D, Cooke J, Thijs L, Staessen J, Fletcher A, Fagard R, Bulpitt CJ on behalf of the Syst-Eur Investigators. Terminal digit and single number preference in the Syst-Eur trial: influence of quality control. *Blood Press Monit* 2002;**7**:169-177
14. Staessen JA, Thijs L, O'Brien E, Bulpitt C, de Leeuw P, Fagard R, Nachev C, Palatini P, Parati G, Tuomilehto J, Webster J, Safar M. for the Syst-Eur Trial Investigators. Ambulatory Pulse Pressure as Predictor of Outcome in Older Patients With Systolic Hypertension. *Am J Hypertens* 2002;**15**:835-843
15. Fletcher AE, Bulpitt CJ, Thijs L, Tuomilehto J, Antikainen R, Bossini A, Brown J, Duggan J, Kawecka-Jaszcz K, Kivinen P, Sarti C, Terzoli L, Staessen JA, on behalf of the Syst-Eur Trial Investigators. Quality of life on randomised treatment for isolated systolic hypertension: results from the Syst-Eur Trial. *J Hypertens* 2002;**20**:2069-2079
16. Palatini P, Thijs L, Staessen JA, Fagard R, Bulpitt CJ, Clement D, de Leeuw PW, Jääskivi M, Leonetti G, Nachev C, O'Brien ET, Parati G, Rodicio JL, Roman E, Sarti C, Tuomilehto J. Predictive value of clinic and ambulatory heart rate for mortality in elderly subjects with systolic hypertension. *Arch Intern Med* 2002;**162**:2313-21

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21. Thijs L, Staessen JA, Beleva S, Birkenhager WH, Bulpitt CJ, Celis H, Fletcher AE, Kermova R, Leonetti G, Laks T, Mantov S, Nachev C, Sarti C, Tuomilehto J, Fagard RH. How well can blood pressure be controlled? Progress report on the Systolic Hypertension in Europe Follow-Up Study (Syst-Eur 2). *Curr Control Trials Cardiovasc Med* 2001;**2**:298-306
22. Celis H, Thijs L, Staessen JA, Birkenhager WH, Bulpitt CJ, de Leeuw PW, Leonetti G, Nachev C, Tuomilehto J, Fagard RH. Interaction between nonsteroidal anti-inflammatory drug intake and calcium-channel blocker-based antihypertensive treatment in the Syst-Eur trial. *J Hum Hypertens.* 2001;**15**:613-8.

Editorials

1. Stolarz K, Staessen JA, O'Brien E Night-time blood pressure – dipping into the future? *J Hypertens* 2002;**20**:2131-2133

Letters

1. O'Brien E and Atkins N on behalf of the Working Group of the Working Group on Blood Pressure Monitoring of the European Society of Hypertension. The "International Protocol": More Insight or More Arithmetic? *J Blood Pressure Monit* 2002;**5**:290-291

Book Chapters

1. Staessen JA, Fagard R, Thijs L, Celis H, Arabidze GG, Babarskiene M-R, Babeanu S, Birkenhager W, Bulpitt C, de Leeuw P, Dollery CT, Fletcher A, Forette F, Kocemba J, Laks T, Leonetti G, Nachev C, O'Brien E, Petrie JC, Rodicio JL, Rosenfeld J, Tuomilehto J, Vanhanen H, Webster J, Yodfat Y, Zanchetti A for the Systolic-Hypertension in Europe (Syst-Eur) Trial Investigators. The Systolic Hypertension in Europe Trial. In: *Clinical Trial Review of Hypertension Therapy*. Ed.Henry Black. US. 2002.

Abstracts

1. Clement DL, De Buyzere M, DeBacquer D, De Leeuw P, Duprez DA, Fagard R, Gheeraert P, O'Brien E for the OvA Investigators. (Abstract) *Am J Cardiol* 2002;**35** (Suppl A):243A
2. Staessen JA, Den Hond E, Celis H, Giot C, Keary L, Leeman M, O'Brien E, Vandenhoven G, Fagard R on behalf of the THOP investigators. Self-measurement of blood pressure as an alternative to ambulatory monitoring for the diagnosis of white coat hypertension. *AJH* 2002;**15**(Part 2 of 2);4A
3. Stanton A, Barton J, Jennsen C, Bobillier A, Mann J, O'Brien E. Dose response antihypertensive efficacy of aliskiren (SPP 100), an orally active rennin inhibitor. *AJH* 2002;**15**(Part 2 of 2);56A
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6. DeLuca N, Safar ME on behalf of the International Coordination Group Asmar R, Battagay E, Benetos A, De Leeuw P, Duprez D, Fitzgerald D, Hedner T, Hitzenberger G, London G, Mallion JM, O'Brien E, Olivier JP, O'Rourke MF, Polonia J, Rahn KH, Romero R, Sever P, Tomarco B. *J Hypertens* 2002;**20**(suppl 4);S164
7. Den Hond E, Celis H, Fagard R, Giot C, Keary L, Leeman M, O'Brien ET, Vandenhoven G, Staessen JA. Comparison of conventional and automated blood pressure measurements: interim analysis of the THOP Trial. *J Hypertens* 2002;**20**(suppl 4);S228
8. Stojanovic M, Stanton A, Lyons S, Atkins N and O'Brien ET. Patterns of age-related changes in ambulatory blood pressure parameters: Phase II of the Allied Irish Bank Study. *J Hypertens* 2002;**20**(suppl 4);S231
9. Celis H, Staessen JA, Thijs L, Buntinx F, De Buyzere M, Den Hond E, Fagard RH and O'Brien ET. Cardiovascular risk in white-coat and sustained hypertensive patients. *J Hypertens* 2002;**20**(suppl 4);S256
10. MacMahon S on behalf of the PROGRESS Collaborative Group. PROGRESS Global Results. *J Hypertens* 2002;**20**(suppl 4);S339
11. Tzourio C, Anderson C, Chapman N, Woodward M, Neal B, MacMahon S, Chalmers J on behalf of the PROGRESS Collaborative Group. PROGRESS in dementia and cognitive function in stroke patients. *J Hypertens* 2002;**20**(suppl 4);S339
12. Chalmers J on behalf of the PROGRESS Collaborative Group. The PROGRESS results: comments and perspectives. *J Hypertens* 2002;**20**(suppl 4);S339
13. Donnan JA for the PROGRESS Management Committee. PROGRESS Results: Implementation in Stroke Guidelines *J Hypertens* 2002;**20**(suppl 4);S339
14. Pringle EM, Phillips C, Thijs L, Davidson C, Parati G, Webster J, O'Brien E, Staessen JA. Night time systolic blood pressure variability as a risk factor for stroke *J Hypertens* 2002;**20**(suppl 4);S???

General and Educational

1. O'Brien E, Robert Graves, Dominic Corrigan. In *Irish Innovators in Science and Technology*. Eds: Charles Mollan, William Davis, Brendan Finucane. Royal Irish Academy. 2002. p. 73 and p. 87.
2. O'Brien E, Bouchier-Hayes D. The solution to Ireland's cardiovascular crisis: an integrated management strategy using a common database. *Modern Medicine* 2002;**32**:35-40
3. O'Brien E. Samuel Beckett and the weight of compassion. In: *Borderlands: Essays on Literature and Medicine*. Eds. Davis Coakley and Mary O'Doherty. A festschrift in honour of JB Lyons. 2002. pp. 141-150
4. O'Brien E. The importance of LIFE. *Modern Medicine* 2002;**32**:49
5. O'Brien E. "Paint the smell of grass". *Nevill Johnson (1911-1999)*. Pamphlet published by The Recorder. 2002. pp. 10
6. O'Brien E and Hall D. Nevill Johnson 1911-1999. *Irish Arts Review* October 2002
7. O'Brien E. ABPM is an indispensable technique. *Irish Medical Times*. 15 Nov 2002. p.32

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Belgian Society of Cardiology. Brussels. 31st January – 2nd February 2002.

Den Hond E, Celis H, Fagard R, Giot C, Leeman E, O'Brien E, Vandenhoven G, Staessen JA, on behalf of the THOP investigators. Comparison of conventional and automated blood pressure measurements: interim analysis of the THOP trial.

Paediatric Nephrology and Urology Week. Institute of Child Health. Great Ormond Street Hospital for Children. 28th February 2002.

O'Brien E. What are we going to do without mercury?

British Surgical Society. Annual Scientific Meeting. Dublin 22nd May 2002

O'Brien E. Invited Lecture: Let humour be thine Medicine

17th Scientific Meeting of the American Society of Hypertension. New York, 14 – 18th May 2002.

Special Debate: Is it time to eliminate the mercury sphygmomanometer?

Chairman: E. O'Brien

O'Brien E. Invited Introductory Lecture: A brief history of a great device.

Oral presentation: Celis H, Staessen JA, Thijs L, Buntinx F, Den Hond E, Fagard RH and O'Brien ET. *Self-measurement of blood pressure as alternative to ambulatory monitoring for diagnosis of white coat hypertension.*

19th Scientific Meeting of the International Society of Hypertension and Twelfth European Meeting on Hypertension, Prague, Czech Republic. 23 – 27th June 2002

Oral presentations

Satellite Symposium: Hypertension: From treatment to optimal therapy

O'Brien E. The right blood pressure measurement

Satellite Symposium. New technologies in Blood Pressure Measurement and Control

O'Brien E. How will we measure blood pressure after mercury is banned?

Teaching Sessions. Management of hypertension in special categories

O'Brien E. Hypertension in elderly patients

Poster Guided Tours

O'Brien E. Blood Pressure Measurement and Monitoring

Breakfast Topical Workshops. Hypertension Management: How can blood pressure control be assessed? Chairman: E. O'Brien.

O'Brien E. The role of conventional blood pressure measurement in assessing blood pressure control.

Plenary Session

Celis H, Staessen JA, Thijs L, Buntinx F, Den Hond E, Fagard RH and O'Brien ET, on behalf of the Ambulatory Blood Pressure Monitoring and Treatment of Hypertension (APTH) trial investigators. *Cardiovascular risk in white-coat and sustained hypertensive patients.*

ESH Working Group on Blood Pressure Monitoring Scientific Seminar: Developments in Blood Pressure Measurement. Chairman: E. O'Brien

O'Brien E. Is the mercury sphygmomanometer definitely doomed?

O'Brien E. ST-segment abnormalities related to left ventricular size

Poster presentations

- Staessen JA, Thijs L, O'Brien E, Bulpitt CJ, deLeeuw PW, Fagard R, Nachev C, Palatini P, Parati G, Tuomilehto J, Webster J, Safar ME for Syst-Eur. Ambulatory blood pressure – not mean pressure determines outcome in older patients with systolic hypertension.
- Stanton A, Ghiuzeli C, Chapman N, Hughes A, Thom S. Human retinal arteriolar dilatation occurs with blood pressure lowering with amlodipine but not with lisinopril.
- DeLuca N, Safar ME on behalf of the International Coordination Group Asmar R, Battagay E, Benetos A, De Leeuw P, Duprez D, Fitzgerald D, Hedner T, Hitzzenberger G, London G, Mallion JM, O'Brien E, Olivier JP, O'Rourke MF, Polonia J, Rahn KH, Romero R, Sever P, Tomarco B.
- Den Hond E, Celis H, Fagard R, Giot C, Keary L, Leeman M, O'Brien ET, Vandenhoven G, Staessen JA. Comparison of conventional and automated blood pressure measurements: interim analysis of the THOP Trial.
- Stojanovic M, Stanton A, Lyons S, Atkins N and O'Brien ET. Patterns of age-related changes in ambulatory blood pressure parameters: Phase II of the Allied Irish Bank Study.
- Celis H, Staessen JA, Thijs L, Buntinx F, De Buyzere M, Den Hond E, Fagard RH and O'Brien ET. Cardiovascular risk in white-coat and sustained hypertensive patients.
- MacMahon S on behalf of the PROGRESS Collaborative Group. PROGRESS Global Results.
- Tzourio C, Anderson C, Chapman N, Woodward M, Neal B, MacMahon S, Chalmers J on behalf of the PROGRESS Collaborative Group. PROGRESS in dementia and cognitive function in stroke patients.
- Chalmers J on behalf of the PROGRESS Collaborative Group. The PROGRESS results: comments and perspectives.
- Donnan JA for the PROGRESS Management Committee. PROGRESS Results: Implementation in Stroke Guidelines.
- Pringle EM, Phillips C, Thijs L, Davidson C, Parati G, Webster J, O'Brien E, Staessen JA. Night time systolic blood pressure variability as a risk factor for stroke.

WHO Meeting on “Reduction of Cardiovascular Burden through Cost-effective Integrated Management of Cardiovascular Risk: Addressing Hypertension, Smoking cessation and diabetes.” WHO Headquarters. Geneva. Switzerland. 9-12th July 2002

O'Brien E. Choice of blood pressure measuring device in developing countries

Hypertension and Quality of Life: Just what the patient ordered. Cork. 12th September 2002

O'Brien E. Inaccurate blood pressure measurement leads to inappropriate management.

Hypertension and Quality of Life: Just what the patient ordered. Dublin. 17th September 2002

O'Brien E. Inaccurate blood pressure measurement leads to inappropriate management.

Healthcare Informatics Society of Ireland. 7th Annual Conference and Scientific Symposium. Dublin. 14th November 2002.

O'Brien E. *Computerised management of cardiovascular illness; the dab[®] approach*

Irish Angiology Society Meeting. Belfast. 30th November 2002

Poster presentations

- Stanton A, Ghiuzeli C, Chapman N, Hughes A, Thom S. Human retinal arteriolar dilatation occurs with blood pressure lowering with amlodipine but not with lisinopril.
- Stojanovic M, Lyons S, Atkins N, O'Brien ET, Stanton A. Patterns of age-related changes in ambulatory blood pressure parameters: Phase II of the Allied Irish Bank Study.
- Stanton A, Neussberger J, Jensen C, O'Brien E. Dose response antihypertensive efficacy of Aliskiren (SPP 100), a new orally active rennin inhibitor.

Maastricht Hospital, Maastricht, The Netherlands. 9th December 2002.

O'Brien E. Invited Lecture. *How can risk factor management be improved..*

University of Leuven, Louvain, Belgium. 10th December 2002

O'Brien E. Invited Lecture. *Advances in Ambulatory Blood Pressure Measurement.*

CURRENT RESEARCH PROJECTS & COLLABORATIVE CENTRES

I. BLOOD PRESSURE MEASUREMENT

- Project title:** *THOP Study. Home Pressure and Treatment of Hypertension.*
Investigators: E. O'Brien, L. Keary, J. Staessen,
Collaborating centres: Catholic University of Leuven, BELGIUM.
Zeneca Ltd., IRELAND.
- Project title:** *Comparison of arterial tonometry and pulse wave velocity*
Investigators: S. Lyons, D. Ryan, E. O'Brien, B. Williams, M. O'Rourke
Collaborating centres: Leicester University, UK
St. Vincent's Hospital, Sydney
- Project title:** *Recommendations for banning of mercury.*
Investigators: E. O'Brien and members of the British Hypertension Society and the Working Group on Blood Pressure Measurement of the European Society of Hypertension.
- Project title:** *Recommendations on Blood Pressure Measurement*
Investigators: E. O'Brien and others
Collaborating centres: British Hypertension Society, UK
British Standards Institute, UK
DHSS, UK
EU Standards Committee, GERMANY
European Society of Hypertension, HOLLAND
Council on High Blood Pressure, IRELAND
TNO, HOLLAND
Food and Drug Administration, US

II. AMBULATORY BLOOD PRESSURE MEASUREMENT

- Project title:** *AIB Study, Phase II: Ambulatory blood pressure and end-organ changes*
Investigators: E. O'Brien, S. Lyons, N. Atkins, K. O'Flynn, A. Tyndall, R Devereaux, J. Staessen.
Collaborating centres: Allied Irish Bank, Ballsbridge, DUBLIN
Catholic University of Leuven, BELGIUM,
Cornell University, New York, USA
Royal College of Surgeons, IRELAND
Charitable Infirmary Charitable Trust, IRELAND
Irish Heart Foundation, IRELAND
- Project title:** *OvA Study: Office versus A BPM in management of hypertension.*
Investigators: E. O'Brien and D. Clement.
Collaborating centres: University of Gent, BELGIUM.
- Project title:** *Recommendations for Ambulatory Blood Pressure Measurement.*
Investigators: E. O'Brien and members of the British Hypertension Society and the Working Group on Blood Pressure Measurement of the European Society of Hypertension.
- Project title:** *Analysis of Blood Pressure Unit data base.*
Investigators: E. O'Brien, N. Atkins, P. Owens, P. deLeeuw.
Collaborating centres: University of Maastricht, THE NETHERLANDS
- Project title:** *Ambulatory blood pressure and mortality.*
Investigators: K. Hinedi, E. O'Brien, N. Atkins, A. Stanton
Collaborating centres: Registrar of Deaths, Joyce House, Dublin, IRELAND

Project title: *The NEAR Study. New approaches to neural alterations.*
Investigators: E. O'Brien, A. Zanchetti, G. Parati
Collaborating centres: University of Milan, ITALY

III. HYPERTENSION IN THE ELDERLY

Project title: *Isolated Systolic Hypertension in the Elderly: The SYST-EUR Phase II Study*
Investigators: P. McCormack, E. O'Brien, J. Staessen.
Collaborating centres: Catholic University of Leuven, BELGIUM.

Project title: *The HYVET Study. Hypertension in the Very Elderly*
Investigators: P. McCormack, E. O'Brien and C Bulpitt
Collaborating centres: Hammersmith Hospital, London., UK.

Project title: *Target organ status in elderly patients with hypertension.*
Investigators: J. Duggan, E. O'Brien.
Collaborating centres: James Connolly Memorial Hospital

Project title: *The PROGRESS (Perindopril Protection Against Recurrent Stroke) Study.*
Investigators: P. McCormack, E. O'Brien and J. Reid, J. Chalmers, S. MacMahon
Collaborating centres: Western Infirmary, Glasgow, UK
University of Auckland, NEW ZEALAND

Project title: *Blood Pressure in elderly patients in different health states.*
Investigators: J. Duggan, C. O'Sullivan, E. O'Brien.
Collaborating centres: James Connolly Memorial Hospital, IRELAND
Royal College of Surgeons, IRELAND

IV. DRUG TREATMENT OF HYPERTENSION

Project title: *Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT). Main Study*
Investigators: E. O'Brien, A. Stanton, D. Fitzgerald, P. Sever, N. Poulter, B. Dahlhoff.
Collaborating centres: St. Mary's Hospital, London, UK
Imperial College, London, UK
University of Göteborg, SWEDEN.
Royal College of Surgeons, IRELAND

Project title: *Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT). Sub-study: ABPM in ASCOT*
Investigators: E. O'Brien, A. Stanton, G. McInnes.
Collaborating centres: St. Mary's Hospital, London, UK
St. Bartholomew's Hospital, London, UK.
Western Infirmary, Glasgow, UK

Project title: *Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT). Sub-study: Silent Ischaemia in ASCOT*
Investigators: E. O'Brien, A. Stanton.
Collaborating centres: St. Mary's Hospital, London, UK

Project title: *Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT). Sub-study: Omron Audit in ASCOT*
Investigators: E. O'Brien, A. Stanton, H. O'Neill.
Collaborating centres: St. Mary's Hospital, London, UK

Project title: *Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT).
Sub-study: Tonometry in ASCOT*
Investigators: E. O'Brien, A. Stanton, B. Williams.
Collaborating centres: Leicester University, UK

Project title: *Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT).
Genetic/Phenotyping Sub-study*
Investigators: A. Stanton, D. Fitzgerald, E. O'Brien, P. Sever, N. Poulter,
S. Thom.
Collaborating centres: St. Mary's Hospital, London, UK
Imperial College, London, UK
Royal College of Surgeons, IRELAND

Project title: *Perindopril/indapamide study on arterial Tonometry and pulse
wave velocity.*
Investigators: E. O'Brien, D. Fitzgerald, D. Ryan, M. Safar, JM Mallion
Collaborating centres: University of Grenoble, FRANCE
Servier Laboratories, FRANCE and IRELAND

Project title: *Action in Diabetes and Vascular Disease, Preterax and
Diamicron MR Controlled Evaluation. (ADVANCE) Main Study*
Investigators: E. O'Brien, A. Stanton, C. Thompson, N. Poulter, S MacMahon,
J. Chalmers,
Collaborating centres: St. Mary's Hospital, & Imperial College, London, UK.
Institute for International Health, University of Sydney, Australia.

V. COMPUTERISED SYSTEMS FOR OUT-PATIENT MANAGEMENT

Project title: *Development of Computerised systems for Out-patient
Management – the DABL and ADAPT Programmes*
Investigators: N. Atkins, E. O'Brien, D. Bouchier-Hayes, W. Rickard
Collaborating centres: Department of Surgery, Royal College of Surgeons, IRELAND

VI. RETINAL MICROVASCULAR STUDIES

Project title: *Retinal microvascular network geometry and cardiovascular risk
in humans*
Investigators A. Stanton, E. O'Brien
Collaborating Centres Department of Clinical Pharmacology, NHLI, Imperial College, UK.

Project title: *The eye as a window to in vivo human microvascular endothelial
function*
Investigators A. Stanton,
Collaborating Centres Department of Clinical Pharmacology, NHLI, Imperial College, UK

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Steering Committee. THOP (Home Pressure and Treatment of Hypertension) Study. E. O'Brien.

Steering Committee Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT): E. O'Brien

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E. O'Brien. Chairman

Genetics Committee. Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT): D. Fitzgerald, A. Stanton, E. O'Brien.