

## Dr Deirdre Lane PhD, FRCPE, FHEA, BSc

Senior Lecturer in Cardiovascular Health

Cardiovascular and Respiratory Sciences

### Contact details

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### About

Deirdre Lane is a Senior Lecturer in Cardiovascular Health. She is involved in teaching undergraduate and graduate entry medical students, postgraduate courses, and in the supervision of undergraduate, postgraduate and doctoral students.

Her research is primarily concerned with stroke and bleeding risk in atrial fibrillation and in patient's perceptions and understanding of the disease and its' treatment, subjects on which she has published extensively. In addition, she often gives talks to variety of audiences at both the national and international level on these topics. She is also a member of the most recent American College of Chest Physician guidelines on antithrombotic therapy in atrial fibrillation patients and the European Heart Rhythm Association Bleeding Task Force. She has also recently been involved in the development of the European Heart Rhythm Association patient website for atrial fibrillation and the NHS Shared Decision Making patient decision aid for stroke prevention for atrial fibrillation or atrial flutter.

### Qualifications

- Postgraduate Certificate in Academic Practice 2013
- Fellow of the Royal College of Physicians Edinburgh 2012
- Fellow of the Higher Education Academy 2012
- PhD 2000
- BSc (Hons) Psychology 1995

### Biography

Dr Lane received a BSc (Hons) in Psychology from the University of Liverpool in 1995. She went on to study for a PhD at the University of Birmingham in 1996. Following the award of her PhD, she worked as an Academic Fellow and Honorary Non-Clinical Lecturer in the University Department of Medicine, Sandwell and West Birmingham Hospitals NHS Trust, until joining the Department of Cardiovascular and Respiratory Sciences in February 2010.

Her main research interest is atrial fibrillation (AF), particularly how AF affects quality of life and psychological well-being, and patient perceptions' of the condition. She was also the principal investigator for a randomised controlled trial [TREAT- ISCRTN93952605] comparing intensive education with usual care in AF patients newly referred for oral anticoagulation (OAC), to examine the impact of education on patients' knowledge and perceptions of AF and its treatment, and anticoagulation control. She is also involved in qualitative research examining the patients' experience of AF and OAC therapy, and physicians' attitudes to AF and OAC prescription. In collaboration with colleagues, she has been integral in refining the risk stratification of AF patients requiring OAC therapy based on their bleeding and stroke risk, and has helped to derive and validate stroke (CHA2DS2-VASc) and bleeding (HAS-BLED) risk schemas which are widely used both nationally and internationally in clinical practice. She was also the principal investigator for an NIHR Health Technology Assessment systematic review of the effects of combination antithrombotic therapy on vascular events in high-risk (post acute coronary syndromes and/or stent implantation) AF patients. Her background is in health psychology and cardiovascular epidemiology and other research interests include hypertension, heart failure, cardiac rehabilitation, and ethnic differences in cardiovascular disease. Dr Lane is also involved in clinical trials and registry studies related to atrial fibrillation.

Her research has received a number of awards. In September 2012 she was one of the recipients of the Atrial Fibrillation Association Team of the Year award for her work in the refinement of stroke risk stratification in atrial fibrillation patients. She has also awarded the BMJ Cardiovascular Team of the Year award (in conjunction with Professor Lip) for her work in the development and validation of the HAS-BLED bleeding risk score and its impact on clinical practice and patient safety. Recently her research group was shortlisted as Finalists for the BMJ Innovation Award 2014 and the BMA Quality in Anticoagulation Awards 2014 in relation to the TREAT intervention.

### Teaching

#### Postgraduate

- Master of Science (MSc) Management of Atrial Fibrillation – Joint Course Lead

#### Undergraduate

- BMedSc Intercalating degree - Programme Lead for Public Health
- MBChB
  - Joint Component Lead for Decision Making (DEM), Foundations 4 (Year 2, Semester 2)
  - Small Group Teaching for Foundations 1-4 (Years 1 & 2)
  - Student Selected Component (SSC) Clinical Audit (Year 4)
- Graduate Entry Course (GEC)

### Postgraduate supervision

Dr Lane currently supervises doctoral students in areas related to her research interests. If you are interested in studying in any of these subject areas or related-subject areas please contact Dr Lane on the contact details above. For general doctoral research enquiries, please e-mail: [dr@contacts.bham.ac.uk](mailto:dr@contacts.bham.ac.uk) (<mailto:dr@contacts.bham.ac.uk>) or call +44 (0)121 414 5005.

For a full list of available Doctoral Research opportunities, please visit our our [Doctoral Research programme listings \(http://www.bham.findaphd.com/?es=y&apl=y&aplt=&show\)](http://www.bham.findaphd.com/?es=y&apl=y&aplt=&show).

## Research

### RESEARCH THEMES

Atrial fibrillation, Stroke prevention, Stroke risk stratification, Bleeding risk with anticoagulation, Health Psychology, Evidence synthesis.

The main emphasis of her work over the last 10 years has been atrial fibrillation, with two major themes: bleeding and stroke risk stratification and patient-centred research. Other research interests include cardiovascular epidemiology particularly hypertension, ethnic differences in cardiovascular disease, cardiac rehabilitation, and psychological responses to myocardial infarction, diabetes mellitus, and heart failure.

### RESEARCH ACTIVITY

#### Bleeding risk stratification

Reducing the risk of bleeding-related complications for atrial fibrillation (AF) patients requiring oral anticoagulation to prevent stroke is one Dr Lane's main interests. In collaboration with national and international colleagues she has helped to identify bleeding risk factors among AF patients and has derived a novel bleeding risk score. The HAS-BLED schema has been incorporated into major national and international guidelines for the management of atrial fibrillation. In addition, her ongoing work is validating the HAS-BLED schema in other AF cohorts and seeking to identify novel blood biomarkers which may further refine bleeding risk in the AF population.

#### Stroke risk stratification

She has also been involved in identifying 'new' risk factors for stroke among AF patients and in conjunction with national and international colleagues she has helped to refine stroke risk assessment, by devising the CHA<sub>2</sub>DS<sub>2</sub>-VASc schema. Her research has involved comparison of CHA<sub>2</sub>DS<sub>2</sub>-VASc with other contemporary stroke risk schemas in different cohorts of AF patients. This has led to the incorporation of the CHA<sub>2</sub>DS<sub>2</sub>-VASc schema into national and international guidelines for the management of AF patients. The CHA<sub>2</sub>DS<sub>2</sub>-VASc schema allows the identification of truly low risk AF patients who may not require antithrombotic therapy, while oral anticoagulation is considered all other patients. This has led to a significant shift in clinical practice, in conjunction with the availability of novel oral anticoagulants with their improved safety profile.

#### Patient-centred research

One of her major interests is the patient and how they adapt to diseases/illnesses. Most recently, her research has focussed on AF patients. Patient perceptions and understanding of disease and its treatment, and identification of patient barriers to treatment are fundamental to their acceptance and adherence to therapy, which is particularly important in chronic treatments which also require lifestyle modification, such as AF patients requiring lifelong oral anticoagulation therapy. Recent research has employed both quantitative and qualitative methodology to explore the patient experience of AF and treatment. She was the lead investigator for a recently completed randomised controlled trial comparing an educational and behavioural intervention, based on psychological theory, with usual care to examine the impact of education on patients' knowledge and perceptions of AF and its treatment, and anticoagulation control. On-going qualitative research is examining the patients' experience of AF and OAC therapy, and physicians' attitudes to AF and OAC prescription. She is also the Chief Investigator for the United Kingdom for the AEGEAN study, a phase IV study examining the impact of patient education on medication adherence for patients receiving one of the new oral anticoagulants. Previously, she has investigated psychological responses to myocardial infarction and heart failure.

#### Evidence synthesis

As the principal investigator she has recently completed an NIHR Health Technology Assessment funded systematic review of the effects of combination antithrombotic therapy on vascular events in high-risk (post acute coronary syndromes and/or stent implantation) AF patients. She is also the co-applicant of two other NIHR Health Technology Assessment funded systematic reviews, one on the diagnostic and prognostic utility of tests currently available for the detection of aspirin resistance in patients with established cardiovascular and cerebrovascular disease and the other on the development and evaluation of a prognostic model and clinical decision rule to help decide on cessation of anticoagulant therapy in patients with idiopathic venous thromboembolism (VTE).

## Other activities

- European Heart Rhythm Association Website and Communication Committee member [commenced September 2013- 2 year term]
- European Heart Rhythm Association Scientific Documents Writing Committee member [commenced July 2013- 2 year term]
- International Advisory Committee member for the Serbian Atrial Fibrillation Association [May 2013- ongoing]
- Steering Committee member for the AEGEAN study, a European Phase IV programme to assess adherence to apixaban and the effects of a patient educational program [ongoing]
- European Heart Rhythm Association Task Force Member –Development of a patient-centred educational webpage for atrial fibrillation [2013]
- Department of Health Medical Advisory Group for Atrial Fibrillation- Development of a patient decision aid for stroke prevention in atrial fibrillation [2012-2013]
- Panellist on the American College of Chest Physicians 9th Guidelines on Antithrombotic Therapy in Atrial Fibrillation patients [2010-2011]
- Panellist on the European Heart Rhythm Association Bleeding Task Force [2010-2011]

## Publications

Clarke-Smith DE, Pattison HM, Lip GYH and Lane DA (2013) [Educational intervention improves anticoagulation control in atrial fibrillation patients: the TREAT randomised trial \(http://www.ncbi.nlm.nih.gov/pubmed/?term=Educational+intervention+improves+anticoagulation+control+in+atrial+fibrillation+patients%3A+the+TREAT+randomised+trial%2B\)](http://www.ncbi.nlm.nih.gov/pubmed/?term=Educational+intervention+improves+anticoagulation+control+in+atrial+fibrillation+patients%3A+the+TREAT+randomised+trial). *PLoS ONE* 8(9):e74037

Lane DA, Raichand S, Moore D, Connock M, Fry-Smith A and Fitzmaurice DA on behalf of the Steering Committee (2013) [Combined anticoagulation and anti-platelet therapy for high-risk patients with atrial fibrillation: a systematic review \(http://www.ncbi.nlm.nih.gov/pubmed/?term=Combined+anticoagulation+and+anti-platelet+therapy+for+high-risk+patients+with+atrial+fibrillation%3A+a+systematic+review\)](http://www.ncbi.nlm.nih.gov/pubmed/?term=Combined+anticoagulation+and+anti-platelet+therapy+for+high-risk+patients+with+atrial+fibrillation%3A+a+systematic+review). *Health Technol Assess* 17(30):1-188

Lip GYH, Lane DA, Buller H and Apostolakis S (2013) [Development of a novel composite stroke and bleeding risk score in patients with atrial fibrillation: the AMADEUS study \(http://www.ncbi.nlm.nih.gov/pubmed/?term=Development+of+a+novel+composite+stroke+and+bleeding+risk+score+in+patients+with+atrial+fibrillation%3A+the+AMADEUS+study\)](http://www.ncbi.nlm.nih.gov/pubmed/?term=Development+of+a+novel+composite+stroke+and+bleeding+risk+score+in+patients+with+atrial+fibrillation%3A+the+AMADEUS+study). *Chest* 144(6):1839-47

Clarke-Smith DE, Pattison HM and Lane DA (2013) [Educational and behavioural interventions for anticoagulant therapy in patients with atrial fibrillation \(http://www.ncbi.nlm.nih.gov/pubmed/?term=Educational+and+behavioural+interventions+for+anticoagulant+therapy+in+patients+with+atrial+fibrillation\)](http://www.ncbi.nlm.nih.gov/pubmed/?term=Educational+and+behavioural+interventions+for+anticoagulant+therapy+in+patients+with+atrial+fibrillation). *Cochrane Database Syst Rev* 6:CD008600

You JJ, Singer DE, Howard PA, Lane DA, Eckman MH, Fang MC, Hylek EM, Schulman S, Go AS, Huges M, Spencer FA, Manning WJ, Halperin JL, Lip GY and American College of Chest Physicians (2012) **Antithrombotic Therapy for Atrial Fibrillation. Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines** (<http://www.ncbi.nlm.nih.gov/pubmed/22315271>). *Chest* 141(2 Suppl):e531S-75S

Lane DA and Lip GYH (2012) **Use of the CHA2DS2-VASc and HAS-BLED scores to aid decision-making for thromboprophylaxis in non-valvular atrial fibrillation** (<http://www.ncbi.nlm.nih.gov/pubmed/?term=Use+of+the+CHA2DS2-VASc+and+HAS-BLED+scores+to+aid+decision-making+for+thromboprophylaxis+in+non-valvular+atrial+fibrillation>). *Circulation* 126(7):860-5

Borg Xuereb C, Shaw RL and Lane DA (2012) **Patients' and health professionals' views and experiences of atrial fibrillation and oral-anticoagulant therapy: A qualitative meta-synthesis** (<http://www.ncbi.nlm.nih.gov/pubmed/?term=Patients%E2%80%99+and+health+professionals%E2%80%99+views+and+experiences+of+atrial+fibrillation+and+oral-anticoagulant+therapy%3A+A+qualitative+meta-synthesis>). *Patient Educ Couns* 88(2):330-7

Lip GYH, Tse HF and Lane DA (2012) **Atrial fibrillation** (<http://www.ncbi.nlm.nih.gov/pubmed/?term=379%3A+648-661>). *Lancet* 379(9816):648-61

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