BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Stephen N. Davis	Theodore Woodward Professor and Chair, Department of Medicine, University of Maryland School of Medicine
eRA COMMONS USER NAME (credential, e.g., agency login) DAVISSM2	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
London University	M.B.B.S	06/1979	Medicine
Royal College of Physicians	M.R.C.P.	06/1982	Internal Medicine
Royal College of Physicians	F.R.C.P.	05/2001	Internal Medicine

A. Personal Statement

Dr. Davis' major research interests include studying neural control of metabolism, exercise physiology and metabolic regulation of in-vivo vascular biology in obese, diabetic and healthy individuals. Dr. Davis is best known for his studies on the mechanisms responsible for hypoglycemia associated autonomic failure in patients with diabetes. Using state-of-the-art integrated in-vivo clinical physiologic approaches, Dr. Davis and his group have been able to identify the deficient autonomic nervous system, neuroendocrine and metabolic homeostatic mechanisms responsible for increased hypoglycemia in intensively treated Type 1 and Type 2 DM individuals. More recently, Dr. Davis's studies have demonstrated novel treatment strategies to restore the deficient autonomic nervous system responses during hypoglycemia. Dr. Davis has authored more than 190 original articles, reviews and book chapters in leading journals and text books. Dr. Davis has trained 60 individuals in his laboratory (MD's, PhD's, medical students. bioengineering students.) He has also served on eight PhD thesis committees, and also served on 15 faculty mentoring committees.

Dr. Davis has substantial expertise and experience in the design, conduct, and interpretation of human glucose clamp studies at rest and during exercise using tracer-labeled glucose as well as phenotyping endothelial function in diabetic and healthy man using a variety of ultrasound methods.

B. Positions and Honors

Positions

1979 Qualified, Royal Free Hospital, School of Medicine, London University
1979-80 House Physician, Academic Depts. of Diabetes and Nephrology, Royal Free Hospital, London, England
1980 House Surgeon, Academic Depts. of Surgery and Gynecology, Royal Free Hospital, University of London
1980-81 Senior House Officer, Accident and Emergency and Intensive Care Unit, Royal Free Hospital, University of London
1981-83 Senior House Officer, Academic Depts. of Diabetes, Medicine, Rheumatology and Respiratory Medicine, Royal Free Hospital, University of London
1983-84 Medical Registrar, Academic Depts. of General Medicine, Diabetes, Endocrinology, Geriatric Medicine and Cardiology. Newcastle General and Freeman Hospitals, University of Newcastle upon Tyne
1984-85 Eli Lilly Research Fellow, Dept of Medicine, Royal Victoria Infirmary, University of Newcastle upon Tyne
1985-87 Medical Research Council Fellow, Honorary Senior Registrar, Dept of Medicine, Royal Victoria Infirmary, University of Newcastle upon Tyne

Temporary Senior Registrar, Dept of Medicine, Royal Victoria Infirmary, Freeman Hospitals, University of Newcastle upon Tyne

1988-89 Medical Research Council Traveling Fellow, Dept of Molecular Physiology and Biophysics, Vanderbilt University School of Medicine, Nashville, TN

1989-91 Juvenile Diabetes Foundation Fellow, Dept of Molecular Physiology and Biophysics and Medicine, Vanderbilt University School of Medicine, Nashville, TN

1991-94 Assistant Professor, Dept of Medicine, Diabetes Research and Training Center, Vanderbilt University School of Medicine, Nashville, TN

1994-2000 Associate Professor, Dept of Medicine, Diabetes Research Training Center, Vanderbilt University School of Medicine, Nashville, TN

1994-2000 Associate Professor, Dept of Molecular Physiology and Biophysics, Vanderbilt University School of Medicine, Nashville, TN

1997-2002 Director, Nashville VA/JDFI Diabetes Research Center, Nashville, TN

2000-2006 Rudolph Kampmeier Professor, Dept of Medicine, Vanderbilt University School of Medicine, Nashville, TN

2000-2006 Professor, Dept of Molecular Physiology and Biophysics, Vanderbilt University School of Medicine, Nashville, TN

1999-2009 Associate Director, Vanderbilt University Diabetes Research and Training Center, Nashville, TN

1999-2009 Associate Director, Vanderbilt University General Clinical Research Center, Nashville, TN

2000-2009 Chief, Vanderbilt University Division of Diabetes and Endocrinology, Nashville, TN

2006-2009 Mark Collie Professor, Dept of Medicine, Vanderbilt University School of Medicine, Nashville, TN

2006-2009 Mark Collie Professor, Dept of Molecular Physiology and Biophysics, Vanderbilt University School of Medicine, Nashville, TN

2009-pres Theodore E. Woodward Professor of Medicine, Chairman, Department of Medicine, University of Maryland School of Medicine, Baltimore, MD

2009-pres Physician-in-Chief, University of Maryland Medical Center, Baltimore, MD

2010-pres Director, University of Maryland General Clinical Research Center (GCRC)

Honors:

Eli Lilly Training Fellow-1984; Medical Research Council Training Fellow-1985; Peel Medical Research Award-1986; Mason Medical Research Foundation Award-1987; Medical Research Council Traveling Fellowship-1988; Newcastle Research and Scientific Committee Research Award-1988; JDF Postdoctoral Research Fellowship-1989; JDF Research Award-1990; Vanderbilt University Biomedical Science Research Grant-1991; Vanderbilt University Diabetes Research and Training Center Research Grant-1992; JDF Research Grant - 1992; Southern Section AFCR Young Faculty Award-1993; JDF Research Grant - 1994; NIH Research Grant-1994-1999; JDF Research Grant-1996; Principal Investigator Nashville VA Diabetes Research Center-1997; Chair, Hypoglycemia and Complications. Annual American Diabetes Association Meeting-1997; JDF Research Grant-1998; American Society for Clinical Investigation–2000; Novartis Award in Diabetes–2000; Fellow of the Royal College of Physicians (UK)-2001; Mary Jane Kugel Award, Juvenile Diabetes Research Foundation International-2002; Grant W. Liddle Award for Clinical Research-2005; Chair, Hypoglycemia and Clinical Complications, Annual American Diabetes Association Meeting-2005, Who's Who in America (2006-2011), Fellow of the American College of Endocrinologists (2008), American's Top Physicians (2008, 2009), Fellow of the American College of Physicians (2009), Who's Who in the World (2010, 2011), Who's Who in Science and Engineering (2011-2012).

Other Experience and Professional Memberships:

American Diabetes Association; British Diabetes Association; American Federation for Clinical Research; British Medical Association; Juvenile Diabetes Foundation International; Southern Society for Clinical Investigation; Royal College of Physicians (U.K.); American Society for Clinical Investigation, American Association of Clinical Endocrinologists, American College of Physicians.

C. Selected Peer-reviewed Publications (Selected from 170 peer-reviewed publications)

Most relevant to the current application

1. Sandoval DA, Gong B and Davis SN. Antecedent Short-Term Central Nervous System Administration of Estrogen and Progesterone Alters Counterregulatory Responses to Hypoglycemia in Conscious Male Rats. American Journal of Physiology: Endocrinology and Metabolism. 2007; 6:E1511-6. PMID: 17940215.
2. Sandoval D, Gong B and Davis SN. Forebrain and hindbrain effects of ethanol on counterregulatory responses to hypoglycemia in conscious rats. Metabolism. 2007; 12:1623-1628. PMID: 17998012.
3. Gustavson S, Sandoval D, Ertl AC, Bao S, Raj S, Davis SN. Stimulation of both type I and type II corticosteroid receptors blunts counterregulatory responses to subsequent hypoglycemia in healthy humans. American Journal of Physiology: Endocrinology and Metabolism, 2008; 294: E506-E512. PMID: 18182467.
4. Briscoe VJ, Ertl AC, Tate DB and Davis SN. Effects of selective serotonin reuptake inhibitors on counterregulatory responses to hypoglycemia in healthy individuals. Diabetes, 2008; 57(9):2453-2460.
5. Ertl AC, Mann S, Richardson A, Briscoe VJ, Blair HB, Tate DB and Davis SN. Effects of oral carbohydrate on autonomic nervous system counterregulatory responses during hyper-insulinemic hypoglycemia and euglycemia. American Journal of Physiology: Endocrinology-Metabolism, 2008; 295(3):E618-E625. PMID: 18612042.
6. Briscoe VJ, Ertl AC, Tate DB, and Davis SN. Effects of the selective serotonin reuptake inhibitor, fluoxetine, on counterregulatory responses to hypoglycemia in individuals with T1DM. Diabetes, 2008; 57(12):3315-3322. PMID: 18835927.
7. Davis SN, Mann S, Briscoe VJ, Ertl AC, and Tate DB. The effects of intensive therapy and antecedent hypoglycemia on counterregulatory responses to hypoglycemia in type 2 diabetes. Diabetes. 2009; 58(3):701-709. PMID: 19092145.
8. Davis SN. Hypoglycemia: A New Approach to an Old Problem, News and Views Article: Managing Hypoglycemia in Adults: An Endocrine Society Clinical Practice Guideline to the Evaluation and Management of Adult Hypoglycemic Disorders. Cryer PE, Axelrod L, Grossman A, Heller SR, Montari VM, Seaquist ER and Service JF. Nature Reviews Endocrinology. 2009; 5(5):243-245. PMID: 9444253
9. Bao S, Briscoe VJ, Tate DB and Davis SN. Effects of differing antecedent elevations of plasma cortisol on counterregulatory responses during exercise in type 1 diabetes. Diabetes. 2009; 58(9):2100-2108. PMID: 19509020 PMCID: PMC2731524
10. Duckworth W, Abraira C, Moritz T, Reda D, Emanuele N., Reaven PD, Zieve FJ, Marks J, Davis SN, Hayward R, Warren SR, Goldman S, McCarren M, Vitek ME, Henderson WG, Huang GD; VADT Investigators. Glucose control and vascular complications in veterans with type 2 diabetes. New England Journal of Medicine, 360(2):129-139, 2009. PMID: 19092145.
11. Hedrington MS, Farmerie S, Ertl AC, Wang Z, Tate DB and Davis SN. Effects of antecedent GABAA activation with alprazolam on counterregulatory responses to hypoglycemia in healthy humans. Diabetes 2010 Apr;59(4):1074-81. PMID: 20086227 PMCID: PMC2844816
12. Gogitidze Joy N, Hedrington MS, Briscoe VJ, Tate DB, Ertl AC and Davis SN. Effects of acute hypoglycemia on inflammatory and pro-atherothrombotic biomarkers in individuals with type 1 diabetes and healthy individuals. Diabetes Care 2010;33,7:1529-35. PMID: 20587723.
13. Wang Z, Hedrington MS, Gogitidze Joy N, Briscoe VJ, Richardson MA, Younk L, Nicholson W, Tate DB and Davis SN. Dose response effects of insulin glargine in type 2 diabetes. Diabetes Care 2010; Jul 33(7):1555-60. PMID: 20357371 PMCID: PMC2890358.
14. Bergenstal RM, Tamborlane WV, Ahmann A, Buse, JB, Dailey G, **Davis SN**, Joyce C, Perkins BA, Welsh JB, Willi SM, Wood MA for the STAR 3 Study Group. Sensor-Augmented Pump Therapy for A1C Reduction (STAR 3) Study; Results from the 6-month continuation phase. Diabetes Care. 2011 Nov 34(11):2403-5.15. PMID: 21933908; PMCID: PMC3198292.
15. Younk LM, Hedrington MS, **Davis SN**. Hypoglycemia associated with exercise in diabetes. Diabetic Hypoglycemia 2011;4:3-10.
16. Davis SN, Evans ML. Prevention and management of hypopglycemia in the active patient with diabetes. Translational Endocrinology and Metabolism, Vol. 3, No. 4, 115-136, 2012.

D. Research Support

Ongoing Research Support

2 P01 HL056693-16 Robertson (PI) 05/01/2012 – 04/30/2017
NIH/NHLBI
Autonomic Cardiovascular Regulation

Project 2: "Hypoglycemia and Exercise Associated with Autonomic Dysfunction"
The major goal of Project 2 is to determine in-vivo mechanisms responsible for hypoglycemia associated adverse cardiac events and propose novel treatments to prevent this occurrence.
Role: Project Leader

Completed Research Support

5 R01 DK069803-05 Davis (PI) 09/30/2004 – 06/30/2011
NIH/NIDDK
Hypoglycemia Associated Autonomic Failure in Type 1 DM

The major goals of this project are to determine 1) in vivo mechanisms responsible for disordered autonomic nervous system (ANS) counterregulatory responses that occur in intensively treated Type 1 diabetic patients and 2) investigate novel treatment strategies aimed at correcting deficient ANS, neuroendocrine and metabolic counterregulatory responses to hypoglycemia in intensively treated patients with Type 1 DM.
There is no overlap with the current award
Role: PI

5 P50 HL081009-05 Oates (PI) 05/20/2006 – 02/28/2012
NIH/NHLBI
SCCOR in Hemostatic and Thrombotic Diseases

Project 5: "Metabolic Causes of Thrombosis in Type 2 Diabetes"
The major goal of Project 5 is to study patients with Type 2 Diabetes Mellitus and to analyze and interpret metabolic, neuroendocrine, endothelial function and fibrinolytic balance data to determine the causes of thrombosis.
Role: Project Leader