May 2023

CURRICULUM VITAE - ROY TAYLOR

Personal Details

Civil status: Married/4 children

Qualifications:

BSc Hons	University of Edinburgh 1973
MB ChB	University of Edinburgh 1976
MRCP	1978
MD	University of Edinburgh 1985
FRCP (Lond)	1989
FRCP (Edin)	1991

Main Appointments

Present: Professor of Medicine and Metabolism Emeritus, Newcastle University

Previous appointments

1977-78 Senior House Officer, Ninewells Hospital, Dundee.

1978-79 Registrar to Professor KG Lowe and Dr RW Newton, Ninewells Hospital, Dundee.

1979-81 Registrar rotation, Newcastle University Hospitals.

1981-84 MRC Training Fellow, honorary senior registrar to Professor KGMM Alberti and honorary senior research associate of the University of Newcastle upon Tyne.

1984-85 First Assistant in Metabolic Medicine, Professorial Medical Unit, Newcastle upon Tyne.

1985-91 Senior Lecturer in Medicine and Honorary Consultant Physician, Royal Victoria Infirmary and Princess Mary Maternity Hospital, Newcastle upon Tyne.

1990-91 Visiting Professor of Medicine, Yale Medical School, New Haven, USA. Sabbatical period Sept 1990 - Aug 1991.

1991-96 Reader in Metabolic Medicine, University of Newcastle upon Tyne and Honorary Consultant Physician, Royal Victoria Infirmary and Princess Mary Maternity Hospital, Newcastle upon Tyne.

1996-2022 Professor of Medicine and Metabolism, Newcastle University & Honorary Consultant Physician, Newcastle upon Tyne Hospitals

2005-21 Director of Newcastle Magnetic Resonance Centre

Prizes and Awards

Distinction in Obstetrics and Gynaecology 1976
Lawson Gifford prize in Obstetrics and Gynaecology 1976
Distinction in Paediatrics 1976
Croom Lectureship Royal College of Physicians of Edinburgh 1988
RD Lawrence Lectureship of British Diabetic Association 1991
Albert Renold Fellowship - European Association for the Study of Diabetes 1990-91
Samuel Lenard Simpson Fellowship - Royal College of Physicians 1990-1991
Honyman-Gillespie Lecture - Edinburgh Medical School – 1992
Arnold Bloom Lecture – Diabetes UK 2005
Chennai MDRF Gold Medal Oration on Diabetic Retinopathy 2005
Banting Lecture Diabetes UK 2012
Harry Keen Rank Nutrition Prize Lecture Diabetes UK 2016
Samuel Gee Lecture of The Royal College of Physicians 2017
Sir Robert W Philip Lecture of The Royal College of Physicians of Edinburgh 2021
Robert Turner Prize for Research Impact – Diabetes UK 2023

Prizes awarded to trainees

R Pandit: Percival J Hay Memorial Prize 1999, North of England Ophthalmological Society for "Mydriasis and Glaucoma: Exploding the Myth".
R Pandit: Bausch & Lomb Ophthalmology Prize 2000 for "Quality Assurance in Screening for Diabetic Retinopathy".
P Carey: Diabetes UK/ Servier Prize 2002: "Change in Muscle Glycogen After a Mixed Meal in Type 2 Diabetes".
P Carey: Dewar research prize 2003.
B Ravikumar: 2004 SKB Award for Best Presentation at post-ADA meeting.
Dr A Jovanovic: 2007 GSK Young Diabetologist Award "Metabolic basis of the second meal effect".
Dr B Ravikumar: 2007 Myra Sim Prize for best published paper, Royal College of Physicians of Edinburgh.
Dr K Hollingsworth: 2009 ICM Poster Prize.
Dr EL Lim: 2010 Association of Northern Physicians Best Oral Presentation.
Dr K Hodson: 2011 Northern Region Frank Stabler Prize for best trainee.
Dr S Steven: 2013 Best Presentation at Institute of Cellular Medicine Annual Meeting.
Dr S Steven: 2013 Anglo Danish Dutch Best Oral Presentation.
Ms S Cassidy: 2014 Best Poster Oral Presentation, Diabetes UK Annual Scientific Meeting.
Ms S Cassidy: 2015 Nick Hales Award for Best Oral Presentation, Diabetes UK Annual Scientific Meeting.
Dr D O'Hogain: 2016 ICM Directors' Day Prize for Best Oral Presentation.
Dr Lucia Rehackova: Best presentation in psychology, Diabetes UK Annual Professional Meeting 2018.

Research, Teaching & Managerial Appointments

Research

Member of NHSE Advisory group on Low Calorie Diet for remission of type 2 diabetes 2019 ongoing
Chairman of DiGEST Steering Committee, University of Cambridge
Member of The Scientific Advisory Committee on Nutrition group to evaluate

low carbohydrate diets 2017-2020
Member of Diabetes UK Research Committee October 2012-2017
Member of Scientific Review Panel DDZ (German Diabetes Research Centre), Dusseldorf 2013 & 2020
Member of MRC College of Experts 2006-2011
Member of Faculty Ethics Committee 2007-2012
Secretary, Dynamic Spectroscopy Group, International Society for Magnetic Resonance in Medicine. 2008-2009
Member of Scientific Advisory Board, Programme National de Recherche sur le Diabete, INSERM / CNRS, France 2004-2009
Member of Research Grant Panel, Italian Ministry for Education University and Research (MIUR) 2002-2005; 2007-2013
Member of Medical Research Council Steering Committee for the POPADAD Study 1997-2006
Chairman, NovoNordisk Project Grants Committee 1993-1996
Member of Medical Research Council Systems Board Grants Committee B: 1988-1992
Associate Editor, Diabetic Medicine: 1987-1995
Scientific Editor, European Journal of Clinical Investigation 1995-2000
Review Editor, International Diabetes Monitor: 1989-
Member of Editorial Advisory Council of Journal of Endocrinological Investigation: 1990-1996
Member of Scientific Committee of International Symposia on Insulin Receptors and Insulin Action 1989-2000
Member of Programme Committee for ADA 1993 and EASD 1999
Referee for Journal of Clinical Investigation, American Journal of Physiology, New England Journal of Medicine, British Medical Journal, Clinical Science, Clinical Endocrinology, Hepatology, Diabetes, Diabetologia, Diabetes Care, European Journal of Clinical Investigation, Journal of Endocrinology, British Journal of Clinical Pharmacology
Grants referee for Medical Research Council, BBSRC, The Wellcome Trust, NIHR, Diabetes UK, Agence Nationale de Recherche (INSERM), The Italian Ministry of Health, The Birthright Trust, Hadwen Trust

Teaching
External examiner for PhD and MD theses, Oxford, Cambridge, London, Nottingham, Dublin, Southampton, Liverpool, Ulster, Sydney, Otago, Lund and Yale Universities
Director of Undergraduate Teaching, RVI Trust 1996-1999
Director of Undergraduate Clinical Skills Course 1987-1998
Acting Chairman of Curriculum Implementation Committee April-August 1994
Vice-chairman of Implementation Working Party for the New Clinical Curriculum 1993-1994
Member of Faculty Teaching Committee 1985-1996
Member of Board of Studies for MB BS course 1996-1998
Secretary of RVI Teaching and Research Committee 1993-1996

Managerial / Administrative
President of Newcastle Branch of Diabetes UK 2014 ongoing
Director of Newcastle Magnetic Resonance Centre, 2005-present
President of British Association of Retinal Screeners 2001-2007
Member of Medical Advisory Board of Pregnancy Sickness Support 2006-

Head of General Medical Unit 1996-2003
Director, Regional Mobile Retinal Screening Service, 1987-2014
Member of DoH English Diabetic Retinopathy Screening Advisory Committee 2003-2015
Member of National Service Framework working group on diabetic eye disease 2000-2001
Chairman, British Diabetic Association Committee on Retinal Camera Screening: 1989-2000
RCP representative National Retinopathy Screening Committee 1999-2000
Member, Senate of University of Newcastle upon Tyne, 1992-1995
Secretary of Association of North of England Physicians, 1994-
Member, NHS / University Liaison committee 1997-2001
Member, Northern Regional Working Party on Diabetes 1986-1996
RVI representative on Newcastle Local Medical Committee 1986-1990
Deputy Director Research & Development at Royal Victoria Infirmary 1993-1998

Research Council & Wellcome Trust Grants Awarded

1983-1985	Medical Research Council Project Grant. Human adipocyte insulin binding and sensitivity in insulin resistant states. £46,000. Sole Investigator.
1986-1988	Medical Research Council Project Grant. Insulin sensitivity of muscle in non-insulin dependent diabetes. £45,000. Sole Investigator.
1988-1991	Wellcome Trust Project Grant. Investigation of the genetic basis of NIDDM using monoclonal anti-insulin receptor antibodies. £49,000. Sole Investigator.
1990-1991	Medical Research Council Project Grant. Comparison of NMR spectroscopy and direct biochemical methods in the investigation of glycogen metabolism in normal and diabetic man. £15,000. Sole Investigator.
1992-1996	Medical Research Council Special Project Grant. Studies of NIDDM. £500,000. Co-investigator with KGMM Alberti, SJ Yeaman, L Agius and D Turnbull.
1995-1998	Medical Research Council Special Project Grant. Studies on the molecular basis of NIDDM. £650,000. Co-investigator with KGMM Alberti, SJ Yeaman, L Agius and DM Turnbull.
1999-2001	Wellcome Trust Project Grant. The dynamics of postprandial substrate storage in normal and diabetic man. £170,000. Principal Investigator (co-applicant Prof P Morris).
2001-2003	Wellcome Trust Project Grant. The dynamics of postprandial substrate storage in normal and diabetic man. £147,000. Principal Investigator (co-applicant Prof P Morris).
2004-2008	Wellcome Trust Programme Grant. The dynamics of postprandial lipid and carbohydrate interaction in liver and muscle of normal and diabetic subjects. £662,148. Principal Investigator (co-applicant Prof P Morris).
2006-2008	MRC Project Grant. Pathogenetic Mechanisms and Potential Therapeutic Targets For Fatigue in Primary Biliary Cirrhosis. £198,426 (coapplicant with Prof D Jones and Dr J Newton).

Other Research Grants

1981-1983	Newcastle upon Tyne Scientific and Research Committee. Characterization of adipocyte and monocyte insulin receptors in man. £18,000. Sole Investigator.
1985-1986	Newcastle upon Tyne Scientific and Research Committee. Muscle insulin sensitivity in normal and diabetic man. £14,000. Sole Investigator.
1985-1990	British Diabetic Association Group Grant. £200,000. Co-investigator.
1986-1987	Newcastle upon Tyne Scientific and Research Committee. Hepatic and peripheral tissue insulin sensitivity in normal ageing. £16,000. Sole Investigator.
1986-1989	British Diabetic Association. Northern Region mobile retinal camera project. £54,000. Sole Investigator.
1987-1989	Glaxo Research Division. Muscle insulin sensitivity in vivo and in vitro. £41,000. Sole Investigator.
1988-1989	Bayer UK. Sucrose absorption and insulin sensitivity. £15,000. Sole Investigator.
1988-1990	Newcastle University Research Committee. Indirect calorimetry in diabetes and pregnancy. £128,000. Sole Investigator.
1989-1990	Iris Fund. Northern Region mobile retinal camera project. £18,000. Sole Investigator.
1989-1991	Wellcome Trust Fellowship award to support Dr AB Johnson. £56,000. Principal Investigator.
1989-1991	Glaxo Group Research. Modulation of human muscle insulin sensitivity. £96,000. Sole Investigator.
1989-1990	Servier Laboratories. Effect of gliclazide on human muscle in vitro. £19,000. Sole Investigator.
1991-1992	Glaxo Group Research. Modulation of human muscle glucose and fatty acid metabolism. £48,000. Sole Investigator.
1994-1995	CellTech Laboratories. Effect of a humanised anti-TNF alpha antibody on insulin sensitivity in NIDDM associated with obesity. £38,000. Sole Investigator.
1994-1997	NovoNordisk. Cross-over study of once daily Ultratard insulin and twice daily Insulatard insulin upon rates of hypoglycaemia and patient acceptability. £101,800. Sole Investigator.
1994-1996	RD Lawrence Fellowship Award to support Dr S Hurel. £79,900. Principal Investigator.
1995-1998	British Diabetic Association. Further studies of cultured human muscle. £26,000. Principal Investigator.
1998-1999	British Diabetic Association. Effect of TNF on insulin action in cultured human muscle cells. £33,000. Sole Investigator.
1998-1999	NovoNordisk Foundation. Hepatic glucose output in normal and diabetic man. £47,000. Sole Investigator.
1999-2000	Lilly Research Foundation. Insulin signalling in cultured human muscle cells from subjects with Type 2 diabetes. £11,919. Sole Investigator.
2001-2003	Eli Lilly. Normalisation of postprandial metabolism in type 2 diabetes: Use of short acting insulin analogues. £88,677. Sole Investigator.
2001-2004	Eli Lilly. Characterisation of the natural history of diabetic retinopathy during modern diabetes management. £94,214. Sole Investigator.
2002-2003	Takeda UK. Effect of enhancing insulin sensitivity upon postprandial hepatic glucose output. £54,000. Sole Investigator.
2004-2006	NovoNordisk Foundation Fellowship Award. Is the abnormal postprandial suppression of hepatic glucose production in type 2 diabetes reversible by decreasing intrahepatic triglyceride stores? £97,000.
2004-2006	NovoNordisk Foundation. Is the abnormal postprandial suppression of hepatic glucose production in type 2 diabetes reversible by decreasing

	intrahepatic triglyceride stores? £12,500. Joint Investigator.
2004	Magnetic Resonance Centre capital award from The Cookson Trust £50,000.
2004	Magnetic Resonance Centre capital award from Newcastle Healthcare Charity £0.25 million.
2004	Magnetic Resonance Centre capital award from Northern Rock Foundation £500,000.
2004	Magnetic Resonance Centre capital award from Strategic Research Infrastructure 2 Funds £1,300,000.
2004	Magnetic Resonance Centre capital allocation from Northumbria Laboratories funds £700,000.
2005	Magnetic Resonance Centre capital award from The Barclay Foundation £30,000.
2005	Magnetic Resonance Centre capital award from Strategic Research Infrastructure 3 Funds £900,000.
2005	Magnetic Resonance Centre capital award from OneNorthEast £1 million.
2005	William Leech Foundation support for named lectureship in MR Physics £70,000.
2006-2007	Hepatic Encephalopathy. Special Trustees.
2007-2009	Diabetes UK RD Lawrence Fellowship for Dr M Trenell. Increased physical activity and glucose control: developing a framework for clinical application in type 2 diabetes. £160,000.
2008-2009	Newcastle Special Trustees. The effect of increased physical activity upon liver fat content in people with non-alcoholic fatty liver disease. £47,698.
2008-2010	Dunhill Medical Trust. Eliminating Periodontal Infection in Patients with Type 2 Diabetes Mellitus:Impact on Glycaemic Control and Quality of Life. £138,260. Co-Investigator.
2009-2010	Diabetes UK. Effect of change in pancreas and liver fat content upon beta cell function and hepatic insulin action during weight loss in type 2 diabetes. £126,000. Principal Investigator.
2010-2011	Novartis. A single-centre, double-blind, randomised, placebo-controlled, parallel-group study to assess the effect of 24 weeks of treatment with Vildagliptin on insulin sensitivity and its underlying mechanisms in patients with type 2 diabetes treated with metformin. £790,959. Principal Investigator.
2012-2015	European Foundation for the study of Diabetes. Physical Changes in the Liver and Pancreas during Reversal of Type 2 Diabetes. Euro 95,000. Principal Investigator.
2010-2012	NIHR Biomedical Research Centre. MR studies of Function and Metabolism in Ageing. £130,000. Principal Investigator.
2010-2012	BUPA Foundation Fatigue in Sub-Clinical Hypothyroidism. £123,104. Co-Investigator.
2010-2012	Wellbeing of Women. Lipid metabolism in normal pregnancy: A MR pilot study. £19195. Principal Investigator.
2014-2019	Diabetes UK. Diabetes Remission Clinical Trial (DiRECT). £2.4million. Co-Chief Investigator.
2014-2015	North East Diabetes Trust. The impact of dietary intervention on reversal of diabetes and maternal liver fat in gestational diabetes (WELLBABE). £16,000. Principal Investigator.
2017-2020	DiRECT Extension of Follow Up. £500,000. Co-Principle investigator.

2017-2022 Diabetes UK. Reversal of Type 2 diabetes Upon Normalisation of Energy intake in non-obese people (ReTUNE). £515,389. Principal Investigator.

Supervision of PhD Studies

1981-1983 `Studies of the insulin receptor.' (Omar Al-Attas) Thesis accepted by University of Newcastle upon Tyne October 1983.
1982-1985 `Insulin receptor binding and biological potency of sulphated insulin.' (Stefan Zeuzem). Accepted Summa cum laude by University of Frankfurt am Main, 1986.
1983-1987 `Studies of insulin action in muscle' (Soheli Chowdhury). Thesis accepted by University of Newcastle upon Tyne, 1987.
1985-1989 `Insulin sensitivity of human muscle' (Mary Argyraki). Thesis accepted by University of Newcastle upon Tyne, 1989.
1988-1991 `Application of indirect calorimetry to the investigation of human metabolism' (Brendan G. Cooper). Thesis accepted 1992.
1990-1994 `Modulation of insulin sensitivity in muscle' (Judith Webster). Thesis accepted 1995.
1994-1997 `Molecular mechanism of insulin insensitivity in NIDDM' (Steven Hurel). Thesis accepted 1997.
2001-2005 'Normalisation of postprandial metabolism in type 2 diabetes' (B Ravikumar). Thesis accepted 2009.
2007-2010 'Physical activity, exercise and ageing' (L Papaconstantinou). Thesis accepted 2011.
2007-2010 'Mitochondrial abnormalities in type 2 diabetes' (Ee Lin Lim). Thesis accepted 2012.
2008-2011 'Physical activity, exercise and non-alcoholic fatty liver disease' (K Hallsworth). Thesis accepted 2012.
2011-2014 'Reversal of type 2 diabetes' (Sarah Steven). Thesis accepted 2016.
2012-2015 'MR Studies of the heart in metabolic disease' (Sophie Cassidy) Thesis accepted 2016.
2015-2018 'The Metabolic Basis of Long Term Reversal of Type 2 Diabetes' (Sviatlana Zhyzhneuskaya) Thesis accepted 2022.

Supervision of MD Studies

1986-1988 `Ageing and insulin sensitivity' (David L Broughton). Thesis accepted by University of Newcastle upon Tyne, 1992.
1987-1991 `Muscle insulin action in NIDDM' (Andrew B Johnson). Thesis accepted by University of Newcastle upon Tyne 1994.
1992-1998 `Insulin sensitivity in PCOS' (Philippa Marsden). Thesis accepted by University of Newcastle upon Tyne 1999.
1999-2003 'Postprandial metabolism in type 2 diabetes' (Peter Carey). Thesis accepted by University of Newcastle upon Tyne 2006.
2001-2004 'Characterisation of the natural history of diabetic retinopathy' (C Arun). Thesis accepted by University of Newcastle upon Tyne 2006.
2005-2007 'Postprandial triglyceride distribution and storage in type 2 diabetes' (Ana Jovanovic). Thesis accepted 2009.
2011-2014 'Effect of DPPIV inhibition on insulin sensitivity' (Mavin Macauley).

Thesis accepted by Newcastle University 2016.

2013-2018 'The Metabolic basis of Gestational diabetes' (Ken Hodson). Thesis accepted by Newcastle University 2018.

Supervision of MPhil Studies

1999-2000 'Hepatic glucose production in type 2 diabetes' (Parag Singal). Thesis accepted by University of Newcastle upon Tyne 2003.

2012-2013 'Wide-field Imaging and OCT versus clinical evaluation of patients referred from Diabetic Retinopathy Screening' (Vina Manjunath). Thesis 2014.

Membership of Specialist Societies

1. British Diabetic Association - 1980
2. European Association for the Study of Diabetes - 1981
3. Thyroid Club - 1980
4. Biochemical Society - 1985
5. American Diabetes Association - 1986
6. Association of Physicians of Great Britain and Ireland - 1991
7. International Society for Magnetic Resonance in Medicine – 1991
8. British Association of Retinal Screeners (co-founder) 2001 and Life Membership awarded 2013

Original Papers

1. Butterworth AE, Sturrock RF, Houba V, Taylor R. Antibody dependent cell mediated damage to ^{51}Cr labelled schistosomula. *Clin Exp Immunol* 1976; 25:96-102
2. Taylor R. Gastrocolic fistula secondary to drug induced gastric ulceration. *Postgrad Med Journal* 1978; 54: 283-284
3. Taylor R, Morgan JM, Davie RM. Renal amyloidosis secondary to mild psoriatic arthropathy. *Brit J Clin Practice* 1981; 35:410-414
4. Worth R, Taylor R, Anderson J, Alberti KGMM. Jet injection of insulin: comparison with conventional syringe injection. *Brit Med Journal* 1980; 281:713-714
5. Taylor R, Clark FC, Griffith ID, Weeke J. Prospective study of the effect of fenclofenac on thyroid function tests. *Brit Med Journal* 1980; 281:911-912
6. Taylor R, Home PD, Alberti KGMM. Plasma free insulin profiles after injection of insulin by syringe and jet injector. *Diabetes Care* 1981; 4:377-379
7. Taylor R, Arze R, Gokal R, Stoddart JC. Cephaloridine encephalopathy. *Brit Med Journal* 1981; 283:409-410
8. Taylor R. Interviewing: the need for continuing education. *Colloquy* 1981; IX:14-15

9. Taylor R, Waddel A, Dale G, Tunbridge WMG. Cortisol creatinine ratio in normal pregnancy. *Horm Metab Res* 1982; 14:279

10. Taylor R, Taylor AEM, Diffey BL, Hindson TC. A placebo controlled trial of UVA photo therapy for uraemic pruritus. *Nephron* 1983; 33:14-16

11. Taylor R, Hutton C, Weeke J, Clark F. Fenclofenac - secondary effects upon the pituitary-thyroid axis. *Clinical Endocrinology* 1983; 19:683-692

12. Taylor R, Isles TE, MacClaren S, Newton R. Metabolic profiles during treatment with glipizide and glibenclamide. *Diabetologia Croatica* 1983; 12:279-292

13. Taylor R, Proctor SJ, James O, Clark F, Alberti KGMM. The relationship between human adipocyte and monocyte insulin binding. *Clinical Science* 1984; 67:139-142

14. Ponchner M, Taylor R, Heine R, Alberti KGMM. *In vivo* insulin sensitivity and monocyte insulin binding during glibenclamide therapy. *Hormone Metab Res* 1984; 16: 208

15. Zeuzem S, Taylor R, Agius L, Albisser M, Alberti KGMM. Differential binding of sulphated insulin to adipocytes and hepatocytes. *Diabetologia* 1984; 27: 184-188

16. Taylor R, Husband DJ, Marshall SM, Tunbridge WMG, Alberti KGMM. Adipocyte insulin binding and insulin sensitivity in brittle diabetes. *Diabetologia* 1984; 27:441-446

17. Taylor R, Heine R, Collins J, James O, Alberti KGMM. Insulin sensitivity in hepatic cirrhosis. *Hepatology* 1985; 5:64-71

18. Taylor R, McCulloch AJ, Zeuzem S, Clark F, Alberti KGMM. Insulin secretion, adipocyte insulin binding and insulin action in thyrotoxicosis. *Acta Endocrinologia* 1985; 109:96-103

19. Zeuzem S, Taylor R. Assessment of human adipocyte glucose uptake using the physiological substrate D-glucose. *Scand J Clin Lab Med* 1985; 45:545-551

20. Spiro JG, Scott S, MacMillan J, Diffey BL, Hindson TC, Taylor R, Taylor AEM, Downey A. Treatment of uraemic pruritus with blue light. *Photodermatology* 1985; 2:319-321

21. Zeuzem S, Taylor R, Agius L, Albisser AM, Alberti KGMM. Biological effects of sulphated insulin in adipocytes and hepatocytes. *Molecular and Cellular* B*iochemistry* 1985; 68:161-168

22. Gill GV, Husband DJ, Wright PD, Sharpe G, Taylor R, Walford S, Marshall SM, Alberti KGMM. Treatment of severe brittle diabetes with Infusaid implantable insulin infusion pumps. *Diabetes Research* 1986; 3:135-137

23. Taylor R, Heaton A, Hetherington CS, Alberti KGMM. Adipocyte insulin binding and insulin action in chronic renal failure before and during continuous ambulatory peritoneal dialysis. *Metabolism* 1986; 35:430-435

24. Taylor R, Heatherington CS, Alberti KGMM. Changes in tissue insulin sensitivity in previously 'brittle' diabetics. *Horm Metab Res* 1986; 18:493-494

25. Pinewska DM, McCulloch AJ, Bramble M, Taylor R, Record CO, Alberti KGMM. Glucose turnover in compensated hepatic cirrhosis. *Horm Metab Res* 1986; 18:834-837

26. Whittaker J, Hammond V, Taylor R, Alberti KGMM. Effect of monensin on insulin interactions with isolated hepatocytes. *Biochem J* 1986; 234:463-468

27. Soos M, Taylor R, Siddle K. Insulin-inhibitory and insulin-like effects of monoclonal antibodies. *Biochem Soc Trans* 1986; 14:317-318

28. Gray CS, Taylor R, French JM, Alberti KGMM, Venables GS, James OFW, Shaw DA, Cartlidge NEF, Bates D. Previously unrecognised diabetes and hyperglycaemia in acute stroke. *Diabetic Medicine* 1987 4:237-240

29. Taylor R, Soos MA, Wells AM, Argyraki M, Siddle KS. Insulin-like and insulin inhibitory effects of monoclonal antibodies for different epitopes on the human insulin receptor. *Biochem J* 1987; 242:123-129

30. Siddle KS, Soos MA, O'Brien RM, Gandeston RH, Taylor R. Monoclonal antibodies as probes of the structure and function of insulin receptors. *Biochem Soc Trans* 1987; 15:47-51

31. Kruszynska YT, Petranyi G, Home PD, Taylor R, Alberti KGMM. Muscle enzyme activity and insulin sensitivity in Type I (insulin dependent) diabetes. *Diabetologia* 1986; 29:699-705

32. Chowdhury SA & Taylor R. Insulin sensitivity of glucose metabolism in obese soleus muscle strip. *Biochem Soc Trans* 1986; 14:1171-1172

33. Chowdhury SA, Agius L & Taylor R. Glucose and pyruvate metabolism in soleus strips. *Biochem Soc Trans* 1986; 14: 1170-1171

34. Broughton DL, Alberti KGMM, Taylor R. Insulin sensitivity and ageing. *Gerontology* 1987; 33:357-362

35. Marshall SM, Home PD, Taylor R, Alberti KGMM. Continuous subcutaneous insulin versus injection therapy: A randomised cross-over trial under usual diabetic clinic conditions. *Diabetic Medicine* 1987; 4:521-525

36. Marshall SM, Taylor R, Home PD. Peripheral insulin sensitivity and adipocyte insulin binding and action after subcutaneous insulin injection therapy and continuous subcutaneous insulin infusion. *Acta Endocrinol* 19898; 117:417-427

37. Chowdhury SA & Taylor R. Glucose metabolism by soleus muscle in neonatal streptozotocin induced diabetes. *Biochem Soc Trans* 1987; 15: 929

38. Chowdhury SA & Taylor R. Soleus muscle insulin sensitivity in diabetes. *Biochem Soc Trans* 1987; 15:930-931

39. Samad AHB, Ty-Willing TS, Alberti KGMM, Taylor R. Effects of BAYm 1099, a new alpha-glucosidase inhibitor, on long term and acute metabolic control in diet treated non-insulin dependent diabetes mellitus. *Diabetes Care* 1988; 11:337-344

40. Kellett H, Collier A, Taylor R, Sawyers JSA, Benson C, Baird D, Clarke BF. Hyperandrogenism, insulin resistance, acanthosis nigricans and SLE associated with insulin receptor antibodies. *Metabolism* 1988; 37:656-659

41. M'banya JC, Thomas TH, Wilkinson R, Alberti KGMM, Taylor R. Hypertension and hyperinsulinaemia: A relationship in diabetes but not essential hypertension. *Lancet* 1: 1088; 733-734

42. Thomas TH, Mbanya JC, Taylor R, Alberti KGMM, Wilkinson R. Hypertension and diabetes mellitus: erythrocyte electrolytes and the effect of captopril treatment. *J Human Hypertension* 1988; 2:229-234

43. Taylor R, Hetherington CS, Tolley S. Biological activity of despentapeptide insulin, a non-aggregating insulin analogue, upon adipocytes and hepatocytes. *Horm Metab Res* 1989; 21:249-252

44. Heaton A, Taylor R, Johnston DG, Ward MK, Wilkinson R, Alberti KGMM. Hepatic and peripheral insulin action in chronic renal failure before and during CAPD. *Clinical Science* 1989; 77:383-388

45. Argyraki M, Wright PD, Venables CW, Proud G, Taylor R. Study of human skeletal muscle in vitro: Effect of NEFA supply on glucose storage. *Metabolism* 1989; 38:1183-1187

46. Atkinson L, Taylor R. Acute neurotoxic and hepatotoxic features of over-exposure to paint fumes. *Postgraduate Medical Journal* 1989; 65:559-562

47. Chowdhury SA, Taylor R. Insulin sensitivity in experimental cirrhosis. *Molecular and Cellular Biochemistry* 1989; 89:69-72

48. Cassidy DM, Pratt DA, Taylor R, Alberti KGMM, Laker MF. Capillary column gas chromatography and mass spectrometry for the determination of the fatty acid composition of human adipose tissue. *J Chromatography* 1989; 491:1-13

49. M'banya J-C, Thomas T, Taylor R, Alberti KGMM, Wilkinson R. Increased proximal tubular sodium absorption in hypertensive patients with type 2 diabetes. *Diabetic Medicine* 1989; 6:614-620

50. Taylor R, Smith NM, Angus B, Horne CHW, Dunlop W. Return of fertility after twelve years of autoimmune ovarian failure. *Clinical Endocrinology* 1989; 31:305-308

51. Carr SA, Mbanya JC, Thomas T, Kearey P, Taylor R, Alberti KGMM, Wilkinson R. Increase in glomerular filtration rate in insulin dependent diabetic patients with elevated erythrocyte sodium-lithium counter-transport. *New England Journal of Medicine* 1990; 322:500-505

52. Johnson A, Argyraki M, Thow J, Broughton DL, Jones IR, Miller M, Taylor R. Effects of intensive dietary treatment on insulin stimulated skeletal muscle glycogen synthase in non-insulin dependent diabetes. *Diabetic Medicine* 1990; 7:420- 428

53. Cooper B, Taylor R, Alberti KGMM, Gibson GJ. Lung function in diabetes mellitus. *Respiratory Medicine* 1990; 84:235-239

54. Johnson AB, Argyraki M, Thow JC, Jones IR, Broughton DL, Miller M & Taylor R. Impaired activation of skeletal muscle glycogen synthase in NIDDM is unrelated to the degree of obesity. *Metabolism* 1991; 40: 252-260

55. Jones IR, Swai A, Taylor R, Miller M, Laker MF, Alberti KGMM. Treatment with bezafibrate lowers plasma glucose concentrations in patients with poorly controlled non-insulin dependent diabetes mellitus. *Diabetes Care* 1990; 13:855-863

56. Broughton DL, James OFW, Alberti KGMM, Taylor R. Peripheral and hepatic insulin sensitivity in healthy elderly subjects. *European Journal Clinical Investigation* 1991; 21:13-21

57. Taylor R, Lovelock L, Tunbridge WMG, Alberti KGMM, Brackenridge R, Stevenson P, Young E. The mobile retinal camera study: A comparison of non-mydriatic Polaroid retinal photography with ophthalmoscopy in 2,150 patients. *British Medical Journal* 1990; 301:1243-1247

58. Johnson A, Argyraki M, Jones IR, Taylor R. The effect of sulphonylurea therapy on skeletal muscle glycogen synthase activity and insulin secretion in newly presenting NIDDM subjects. *Diabetic Medicine* 1991; 8:243-253

59. Thow JC, Johnson AB, Marsden S, Taylor R, Home PD. Morphology of palpably abnormal injection sites and effects on absorption of isophane insulin. *Diabetic Medicine* 1990; 7:795-799

60. Pears J, Jung RT, Browning MCK, Taylor R, Burchell A. Reactive hypoglycaemia in association with disordered islet function and abnormal hepatic glucose-6-phosphatase activity: Response to diazoxide. *Diabetic Medicine* 1991; 8:268-271

61. Cooper BG, McClean JA, Taylor R. Evaluation of the Deltatrac indirect calorimeter by gravimetric gas injection and alcohol burning. *Clinical Physics and Physiological Measurement* 1991; 12:333-341

62. Sum CF, Webster JM, Johnson AB, Catalano C, Cooper BG, Taylor R. The effect of intravenous metformin on glucose metabolism during hyperglycaemia in NIDDM. *Diabetic Medicine* 1992; 9:61-65

63. Johnston AB, Argyraki M, Thow JC, Cooper BG, Fulcher G, Taylor R. Effect of increased non-esterified fatty acid supply upon glucose metabolism and skeletal muscle glycogen synthase activity in normal man. *Clinical Science* 1992; 82: 219-226

64. Taylor R, Price TP, Rothman D, Shulman RG, Shulman GI. Validation of ^{13}C-NMR measurement of muscle glycogen by comparison with biopsy and direct biochemical assessment. *Magnetic Resonance in Medicine* 1992; 27:13-20

65. Rutherford PA, Thomas T, Carr SJ, Taylor R, Wilkinson R. Kinetics of sodium-lithium countertransport activity in patients with uncomplicated type 1 diabetes. *Clinical Science* 1992; 82:291-299

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Short Commentaries
(1997 onwards)

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C4. Taylor R. Dose-response study of a novel insulinotropic agent BTS 67 582 in Type 2 diabetes. International Diabetes Monitor 10:13, 1998

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C10. Taylor R. Early defects in insulin secretion and insulin action in the pathogenesis of type 2 diabetes mellitus. International Diabetes Monitor 12:18-19, 2000

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C14. Taylor R. Screening for diabetic retinopathy. Lancet 361: 1570, 2003

C15. Taylor R.Conundrum of the HOPE study. Brit Med J 327: 681-82, 2003

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C20. Taylor R, Chen MJ. Mechanism of the Second Meal Phenomenon: Reply to Dr Knop. Diabetes Care 2011; 34:e45

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C22. Taylor R. Insulin dose in diabetic ketoacidosis. Reply to Savage et al. Diabetic Medicine 2012; 28: 153-4. doi: 10.1111/j.1464-5491.2011.03398.x.

C23. Taylor R. Reversing type 2 diabetes. Reply to Paisey et al. Practical Diabetes 2012

C24. Taylor R. Raising a questioning eyebrow. Diabetes Digest 2014; 13:40-41

C25. Hodson K, MacDougall M, Taylor R. Gestational diabetes: new criteria may triple the prevalence but effect on outcomes is unclear. Brit Med J 2014 Mar 11th

C26. Hodson K, MacDougall M, Taylor R. Treating gestational diabetes reduces perinatal morbidity. Brit Med J 2014 Apr 14; 348:g2690. doi: 10.1136/bmj.g2690. PMID: 24732140

C27. Hollingsworth KG, Al-Mrabeh A, Steven S, Taylor R. Pancreatic triacylglycerol distribution in type 2 diabetes. Diabetologia 2015 Nov;58(11):2676-8. doi: 10.1007/s00125-015-3718-1. PMID: 26232098

C28. Taylor R. Fewer large babies are born to pregnant woman with type 1 diabetes if their glucose was monitored continuously - The Conceptt study. NIHR web information 2017 https://discover.dc.nihr.ac.uk/portal/article/4000866/fewer-large-babies-are-born-to-pregnant-woman-with-type-1-diabetes-if-their-glucose-was-monitored-continuously

C29. Taylor R. The new understanding of type 2 diabetes: simplicity revealed. Revista Colombia de Endocrinología Diabetes & Metabolismo 2018; 5: 33

C30. Taylor R. Remission of type 2 diabetes by weight loss in a non-white population. The Lancet 2020 June; 8(6):458-459. doi: 10.1016/S2213-8587(20)301457-9. PMID: 32445729

C31. Marchesini G, Taylor R. Genes and Lifestyle: Which of the Two is More Relevant in Driving NAFLD Progression? Liver and Digestive Disease 2021;9:39. doi.org/10.1016/j.dld.2021.08.011

C32. Lean MEJ, Taylor R, Sattar N. Determination of autoantibodies in type 2 diabetes: one simple way to improve classification. Diabetologia 2023 66(5): 958–959. DOI:10.1007/s00125-022-05863-7

C33. Taylor R. Fasting diets and type 2 diabetes. Letter to The Times 30th June 2023, p26.

C34. Taylor R. Commentary: Diabetes remission and relapse following an intensive metabolic intervention combining insulin glargine/lixisenatide, metformin and lifestyle approaches: Results of a randomised controlled trial. PracticeUpdate https://www.practiceupdate.com/content/diabetes-remission-and-relapse-following-an-intensive-metabolic-intervention-combining-insulin-glarginelixisenatide-metformin-and-lifestyle-approaches/155718/65/8/1.

Invited Lectures

1. Use of insulin analogues in analysis of the linkage between the insulin receptor and post-binding events. Symposium on post-binding events in insulin action.
St. Thomas' Hospital, London, September, 1984

2. Initiation of insulin action in human adipocytes by monoclonal anti-receptor antibodies.
Third International Symposium on Insulin Receptors, Madrid, November 1986

3. The insulin receptor and insulin resistance.
Caledonian Endocrine Society Meeting, December 1986

4. Clinical aspects of insulin receptor function.
IV Hvidore Symposium, Oslo, May, 1987

5. Non-insulin dependent diabetes - No longer the poor cousin.
Croom Lecture of Royal College of Physicians of Edinburgh, November 1988

6. Treatment of hypertension in diabetes.
Royal College of Physicians of Ireland, March 1989

7. Pathogenesis of non-insulin dependent diabetes.
Institute of Endocrinology, Moscow, July 1989

8. Insulin treatment in diabetes - When and how.
Royal College of Physicians of Glasgow, Oct 1989

9. Pregnancy and insulin dependent diabetes - change in insulin sensitivity and implications for management.

Clinical Nutrition Meeting, Leeds, Sept 1989

10. Management of diabetes in the future.
Royal College of Physicians of London, March 1990

11. Resistance to injection.
R.D. Lawrence Lecture of British Diabetic Association, April 1991

12. Insulin resistance and hypertension.
British Endocrine Society Meeting, Brighton, April 1991

13. Modulating insulin sensitivity in non-insulin dependent diabetes.
Frontiers in Diabetes Research, Steno Hospital, Copenhagen, May 1992

14. Management of non-insulin dependent diabetes.
Cambridge Ophthalmological Symposium, Cambridge, September 1992

15. Measuring glucose metabolism in man using nuclear magnetic resonance spectroscopy. Honyman-Gillespie Lecture, Edinburgh Medical School, October 1992.

16. NIDDM: Resistance to ideas or resistance to insulin?
Royal College of Physicians of Edinburgh Symposium, November 1992

17. Basic and clinical aspects of insulin resistance.
Portuguese Society for Endocrinology, Porto, December 1992

18. Insulin treatment in NIDDM: Lessons for pathogenesis.
Endocrine Grand Rounds, Yale University Medical School, June 1993

19. Metabolic abnormalities in NIDDM.
MCRS conference, London, March 1994

20. Aetiology of NIDDM and relationship to the metabolic syndrome.
U.K. Advanced Diabetes Course, Edinburgh, June 1994

21. Screening for diabetic retinopathy using the mobile non-mydriatic camera.
BDA eye screening symposium, Exeter, October 1994

22. Therapeutic gaps in the current management of NIDDM.
Glaxo International Seminar, London, October 1994

23 Science and Sensibility in NIDDM.
Isle of Wight Diabetes Conference, October 1994

24. Breaking the taboo: Insulin for the non-insulin dependent.
Commonwealth Institute, London, December 1994

25. Management of diabetes in the elderly.

British Geriatric Association Meeting, May 1995

26. Pathogenesis of NIDDM.
Norwich Diabetes Conference, June 1995

27. Effective screening for diabetic retinopathy
British Diabetic Association Medical and Scientific Section Meeting. October 1995

28. Insulin resistance
Royal College of Physicians of Edinburgh, February 1996

29. Screening for diabetic retinopathy in primary care.
Royal College of Ophthalmologists, London, September 1996

30. Lessons from human muscle cell culture.
International Diabetes Federation Meeting, Helsinki, July 1997

31. Cultured human muscle: A microcosm of insulin action.
Kings College Hospital, October 1997

32. Methods of assessing insulin sensitivity.
Royal College of Physicians, May 1998

33. TNF alpha and its specific effects upon insulin action in muscle.
Insulin Action Meeting, Rome, October 1998

34. Insulin treatment in Type 2 diabetes.
Royal College of Physicians of East India., Calcutta, February 1999

35. The nature of Type 2 diabetes.
All India Diabetes Update. Bombay, February 1999

36. Insulin sensitivity and fertility.
British Fertility Society, Newcastle, April 1999

37. Pregnancy and diabetes: Reality dawns. Royal College of Physicians of Edinburgh
Teeside symposium, April 1999

38. Control of post-prandial blood glucose: The potential of new treatments.
Glasgow Lilly pre-conference symposium, April 1999

39. Pancreatic nemesis and rational management.
Tayside Diabetes Symposium, November 1999

40. Pathophysiological basis for treatment of type 2 diabetes.
Italian Society for Diabetology, Bari, May 2000

41. Role of hepatic glucose output in the development of hyperglycaemia in type 2 diabetes. International Workshop on Hepatic glucose Output. Copenhagen,

September 2000

42. Management of hyperglycaemic emergencies.
RCP Regional Meeting, November 2000

43. Elucidating the physiology and pathophysiology of human carbohydrate metabolism in vivo using MR spectroscopy.
International Society for Magnetic Resonance in Medicine, Glasgow, April 2001

44. Future treatment of diabetes.
Northallerton Diabetes Meeting, April 2001

45. Are there defects in hepatic insulin sensitivity in type 2 diabetes?
International Symposium on Insulin Receptors and Insulin Action, Geneva, May 2001

45. Epidemiology of microvascular complications of diabetes.
European Association for the Study of Diabetes Meeting, Glasgow, Sept 2001

46. Where does the food go in type 2 diabetes?
Egyptian Diabetes Group Meeting, Cairo, March 2002

47. Management of microvascular complications of diabetes.
International Conference on Ophthalmology, Sydney, April 2002

48. Muscle glycogen storage after eating in type 2 diabetes.
Third Dept of Medicine, Vienna, May 2002

49. Rollicks with metabolics.
KGMM Alberti retirement symposium, Newcastle, September 2002

50. Quality assurance in screening for diabetic retinopathy.
Hammersmith Hospital, November 2002

51. Effective eye screening: Translating the National Service Framework into practice.
Diabetes UK Annual Professional Meeting, Glasgow, March 2003

52. Storing energy: Postprandial choices and their consequences.
Mayo Clinic Grand Round, Rochester MN, June 2003

53. Preventing complications: What can you achieve?
Complications Symposium, ADA, New Orleans, June 2003

54. Alchemy and alternative routes of insulin administration.
Oxford Diabetes Symposium, July 2003

55. Effect of ruboxistaurin, a selective PKC beta inhibitor, on diabetic microvascular complications.
IDF Symposium: The Road Less Travelled: Diabetes Treatment Beyond Glucose,

Paris, August 2003

55. Metabolism and Diabetes Overview.
International Society for Magnetic Resonance in Medicine Workshop, Orlando, Sept 2003

56. Where did you put your breakfast?
Scottish Study Group for the Care of Diabetes in the Young. Pitlochry, Oct 2003

57. What do you do with your food?
Clinical Meeting, Oxford Centre for DEM, Oct 2003

58. Policy into Practice – NICE and the NSF for diabetes.
Clinical Care Symposium, Bristol, Nov 2003

59. Screening for Diabetic Retinopathy.
Primary Care Diabetes Conference, London, Jan 2004

60. Clinical effects of ruboxistaurin on diabetic microvascular complications.
Diabetes UK symposium, March 2004

61. Diabetic Retinopathy. Expert session, BES conference, Brighton 2004

62. Magnetic resonance: A new window on clinical investigation. Association of Physicians of Region No. 1., March 2004

63. Effective Screening for Diabetic Retinopathy. DIG Symposium, Weston super Mare, May 2004

64. Separating wheat from chaff: A toolkit to test clinical research publications.
Advanced Diabetes Course, Exeter, July 2004

65. Diabetic Retinopathy Screening. DIG Symposium, Newcastle, September 2004

66. Battling with sweetness. Prof JM Davison retirement symposium, Newcastle, November 2004

67. Quality Assurance in Retinal Screening. Kings Lynn Diabetes Meeting, November 2004

68. Vision in Diabetes: The Arnold Bloom Lecture. Diabetes UK Annual Meeting, Glasgow, 2005

69. This house believes that the National Screening Committee's proposals for retinal screening will not decrease the incidence of blindness in the population. Debate for Royal College of Ophthalmologists Annual Conference, Birmingham May 2005

70. Optimal management of hyperglycaemia in hospital and of hyperglycaemic emergencies. Oxford Advanced Diabetes Course, October 2005

71. Chennai Gold Medal Oration in Diabetes. Chennai, India, November 2005

72 Effective Prevention of Blindness due to Diabetes. WHO Workshop, Geneva, November 2005

73 Glycogen loading for athletes and others. Newcastle Diabetes Centre Seminars, Newcastle, February 2006

74. Type 2 diabetes: Can we control complications? Novartis Symposium, Athens, April 2006

75. Pregnancy and Diabetes in Newcastle 1985-2005: Management and Outcomes. Regional Obstetric Survey meeting, Newcastle July 2006

76. Control of diabetes in labour. Intra-Partum Study Day Newcastle, July 2006.

77. Mother and baby. GP Forum Newcastle, July 2006.

78. Fatty liver: Are we what we eat? Invited lecture International Diabetes Federation Meeting, Capetown, November 2006

79. The Metabolic Syndrome: Badge of Success for the Hunter Gatherer? British Society of Periodontology; Edinburgh, May 2007

80. Mass Spectrometry and the Secret of Life. Newcastle Scientific Facilities Lecture, March 2007

81. Aetiology of type 2 diabetes: The mist clears. New Perspectives Symposium, Edinburgh, June 2007

82. The Metabolic Syndrome in Clinical Practice, 50th Anniversary Symposium of Medical Faculty, Paraguay, August 2007

83. Diabetes and the Heart, 50th Anniversary Symposium of Medical Faculty, Paraguay, August 2007

84. Magnetic Resonance and Diabetes, 50th Anniversary Symposium of Medical Faculty, Paraguay, August 2007

85. Metabolic Syndrome. NE Obesity Forum, Newcastle, Nov 2007

86. Pathogenesis of type 2 diabetes: The role of the liver. Diabetes UK meeting, March 2008

87. Retinal screening in Diabetic Pregnancy. NICE Guideline Symposium, Royal College of Obstetricians and Gynaecologist, April 2008

88. Management of severe hyperemesis. MacDonald Obstetric Society, April, 2008

89. NICE Guidance on Type 2 Diabetes: Retinal Screening. RCP, June 2008

90. Management of diabetes in acute situations. Oxford Advanced Diabetes Course, October 2008

91. Application of MR spectroscopy to clinical questions. UK Trade and Investment Seminars, New Jersey, December 2008

92. Preventing the worst fear: Effective screening for retinopathy in diabetes. Federation of European Nurses in Diabetes, Vienna, September 2009

93. Diabetes management in hospital. Oxford Advanced Diabetes Course, October 2009

94. Metabolic insights into human activity and diabetes. RCP Update in General Medicine, Freeman Hospital, November 2009

95. Treatment options after metformin: thiazolidinediones. Diabetes UK meeting, Liverpool, March 2010

96. Endocrinology for Obstetricians. Royal College of Obstetrics and Gynaecology, London, May 2010

97. Exploring the reversibility of type 2 diabetes. Association of British Clinical Diabetologists, Newcastle, May 2010

98. Type 2 diabetes: A curable disease. St Andrews symposium, St Andrews, May 2010

99. Periodontal disease and diabetes. Colgate-Palmolive symposium. London, May 2010

100. New challenges in diabetes retinal screening. West of Scotland Ophthalmologists. Glasgow, June 2010

101. Magnetic Insights into Health and Disease. Jesmond Senior Men's Club, Newcastle upon Tyne, June 2010

102. Using steroids in the managements of severe hyperemesis gravidarum. First National Conference on Nausea and Vomiting in Pregnancy. Warwick, July 2010

103. Application of magnetic resonance techniques to clinical research. 6th Annual Conference of UK Clinical Research Facilities, Newcastle upon Tyne, July 2010

104. Use of oral hypoglycaemic agents in gestational diabetes. Southern Obstetric Medicine Symposium, Royal College of Physicians, London, December 2010

105. Closing in on the cause of type 2 diabetes. German Diabetes Institute, Dusseldorf, January 2011

106. Physician's perspective on epidemiology of diabetic retinopathy. Royal College of

Ophthalmologists, February 2011

107. Endocrinology for Obstetricians – Maternal Medicine Conference. Royal College of Obstetrics and Gynaecology, London, May 2011

108. Reversing type 2 diabetes: Insight into aetiology. Association of Physicians of Great Britain and Ireland, April 2011

109. Practical management of type 2 diabetes Nepal Diabetes Society, Kathmandu, December 2011

110. Preventing blindness in diabetes, Nepal Diabetes Society, Kathmandu, December 2011

110. Reversing the twin cycles of type 2 diabetes. Banting Lecture of Diabetes UK, Glasgow, March 2012

111. Type 2 diabetes is a reversible metabolic syndrome. New Zealand Endocrine society, Auckland, May 2012

112. The aetiology of gestational diabetes becomes clear. International Society for Obstetric Medicine, Oxford, July 2012

113. The nature of type 2 diabetes. The challenge of mitigating microvascular and macrovascular risk over the natural history of T2DM. ADA symposium, Philadelphia, June 2012

114. Reversing to Enlightenment. Heart UK Conference, Newcastle upon Tyne, June 2012

115. Magnetic resonance studies of the liver. Gordon Conference, Maine, August 2012

116. Watch Your Liver. British Chapter International Society for Magnetic Resonance in Medicine, September 2012

117. Eye screening – The role of BARS. British Association of Retinal Screeners Conference, Liverpool, September 2012

118. Eating through the myths: Food, Health and Happiness. Federation of European Nurses in Diabetes Annual Conference, Berlin, September 2012

119. Balancing risks and benefits in Type 2 Diabetes. European Association for the Study of Diabetes Symposium, Berlin, September 2012

120. Reversing type 2 diabetes by diet alone. “Thinner, Fitter, Faster” RCPE Conference, October 2012

121. Mechanism of metabolic benefit after bariatric surgery: It’s all food restriction. Controversies on Diabetes and Hypertension meeting, Barcelona, November 2012

122. Honey, I shrank the Hairy Bikers! British Association of Metabolic Surgeons, Glasgow, January 2013

123. Reversing to Enlightenment: Aetiology of Type 2 Diabetes. Cambridge University Metabolic Research Group Lecture, February 2013

124. Endocrinology in Pregnancy. Maternal Medicine Symposium, RCOG, March 2013

125. Type 2 diabetes: Can you reverse yours? Edinburgh Diabetes Group, March 2013

126. Long term reversal of type 2 diabetes by reducing liver fat. EASD Study Group, Helsinki, March 2013

127. The Management of Obesity and Bariatric Surgery. Gateshead Diabetes Masterclass, March 2013

128. Losing weight like the Hairy Bikers. Can You? Darlington Diabetes UK members forum, April 2013

129. Reversing type 2 diabetes. Can you? Norfolk and Norwich Diabetes Annual Meeting, May 2013

130. Type 2 diabetes. Durham Diabetes UK Meeting, May 2013

131. Therapeutic advances in type 2 diabetes. Asia-Pacific, Middle East and African Countries) Expert Forum, New horizons in cardio-metabolic medicine, May 2013

132. Type 2 Diabetes – Reversing the Irreversible. RCP Medicine Conference, Calcutta, October 2013

133. Life, Diabetes and Gliptins. RCP Medicine Conference, Calcutta, October 2013

134. Debate: Bariatric Surgery is The Cure for Type 2 Diabetes. 2nd Excellence in Diabetes Conference, Qatar, February 2014

135. How much Pie? Food, Health and Diabetes. Plenary lecture, Diabetes UK Annual Scientific Conference, March 2014

136. Preventing loss of sight in diabetes. Medicine and Me series, Royal Society of Medicine, March 2014

137. Reversing the twin cycles of diabetes. Medical Pilgrims Meeting, April 2014

138. Does calorie restriction decrease pancreatic fat and improve insulin secretion in type 2 diabetes? Royal Society of Medicine, May 2014

139. The Personal Fat Threshold and Type 2 Diabetes. Barts International Diabetes Symposium, May 2014

140. Reversing the Irreversible: Type 2 Diabetes and You. Newcastle University Public

Lecture, November 2014

141. Reversing the Irreversible: Type 2 Diabetes. Royal College of Physicians and Surgeons of Glasgow, November 2014

142. Finessing the fat: Switching type 2 diabetes on and off. Society for Endocrinology, London, January 2015

143. How do our Surgeries work in Diabetes? British Obesity and Metabolic Surgery Society, Newcastle upon Tyne January 2015

144. The Art of the Possible: Light Dawns on Type 2 Diabetes. Young Diabetologists Forum, London March 2015

145. Stepping over your personal fat threshold: Health and Type 2 Diabetes. Newcastle University Graduate society, Newcastle upon Tyne April 2015

146. Non- Alcoholic Fatty Liver Disease. Lilly Hot Topics meeting, Newcastle upon Tyne April 2015

147. EASD NAFLD Workshop, Newcastle upon Tyne May 2015

148. Obesity management strategies and the role of bariatric surgery in type 2 diabetes management. Novartis AMAC Meeting , Seoul, S Korea. May 2015

149. Recent Evidence for Lifestyle Intervention in Type 2 Diabetes. North East Diabetes Symposium, Newcastle upon Tyne June 2015

150. Reversing Type 2 Diabetes to Normal: The Art of the Possible. Grand Round, Auckland City Hospital, New Zealand. August 2015

151. Stepping over your Personal Fat Threshold. Auckland Endocrinologists. Auckland, New Zealand August 2015

152. Reversing the Irreversible: Type 2 Diabetes to normal metabolism. Cardiac Society of Australia and New Zealand. Melbourne August 2015

153. How much Pie? Simple Metabolism for Survivors. Cardiac Society of Australia and New Zealand. Melbourne August 2015

154. Do you use your glycogen stores? Cardiac Society of Australia and New |Zealand. Melbourne August 2015

155. Reversing type 2 diabetes to normal: Stepping over the personal fat threshold. Association for the Study of Obesity. Glasgow, September 2015

156. Weight loss to restore Beta Cell Function: A cure for type 2 diabetes? British Association of Retinal Screeners. Bristol, September 2015

157. Gut hormone are innocent bystanders in the metabolic response to bariatric surgery. Cambridge Diabetes Symposium, November 2015

158. The 800 calorie hit: hype or highroad to long term health? Association of British Clinical Diabetologists, RCP, London, November 2015

159. Weight loss decreases pancreatic triglyceride specifically in type 2 diabetes. Diabetes care symposium, International Diabetes Federation Meeting, Vancouver, December 2015

160. Type 2 diabetes: A reversible metabolic syndrome. Wellington, New Zealand, January 2016

161. Stepping over the Personal Fat Threshold of Type 2 diabetes. The Harry Keen Rank Prize Lecture, Diabetes UK, Glasgow, March 2016

162. Managing Diabetes in Pregnancy. Royal College of Obstetrics and Gynaecology, London, March 2016

163. Type 2 diabetes: Newer insights on mechanisms. Pacific Rim Gold Meeting, Mumbai, March 2016

164. Lessons for childhood: Weight loss in type 2 diabetes. Northern Regional Paediatric Update Meeting, Gateshead, March 2016

167. Managing the Vascular risk associated with NAFLD: $VLDL_1$-TG. European Association for the Study of Diabetes workshop on NAFLD, Copenhagen, April 2016

168. Aetiology of type 2 diabetes: studying reversal to normal. Oxford Centre for Diabetes and Metabolism seminar, Oxford, April 2016

169. The George Murray Approach to type 2 diabetes: Care Report to Cure. Endocrine Society Meeting, Newcastle, May 2016

170. Understanding the research process: How to construct research questions from day-today clinical practice. Specialist Trainees' Research Day, Newcastle, July 2016

171. The aetiology of type 2 diabetes. Kerala Diabetes Society/RSSDI, Kochi, Kerala July 2016

172. Stepping over your personal fat threshold. Kerala Diabetes Society/RSSDI, Kochi, Kerala July 2016

173. The rumbustious journey from Royal Medical Society in 1974 to reversing diabetes in 2016. Edinburgh Royal Medical Society, September 2016

174. Tackling obesity. North East Obesity Forum. Gateshead, October 2016

175. Putting insulin resistance into context by dietary reversal of type 2 diabetes. Royal College of Physicians of Edinburgh Symposium. Edinburgh October 2016

176. What you need to know about pre-existing diabetes in pregnancy. Royal College of Obstetricians and Gynaecologists. London, November 2016

177. Reversing the Irreversible. Guild of Medical Writers. London, November 2016

178. Using diet and behaviour change rather than bariatric surgery for long term reversal of type 2 diabetes. Clinical Conundrums meeting, Royal College of Physicians. London, January 2017

179. What can the Sugar Tax achieve? Clinical Conundrums Meeting, Royal College of Physicians. London, January 2017

180. Update of progress on DiRECT. Hot Topics Symposium, Diabetes UK Annual Professional Meeting. Manchester 2017

181. Diabetes and Thyroid disease in pregnancy. Royal College of Obstetricians and Gynaecologists. London, April 2017

182. Physiology, Food and Type 2 Diabetes. The Samuel Gee Lecture of the Royal College of Physicians. London, April 2017

183. World diabetes. Medsin International UK meeting. Newcastle, April 2017

184. Degree of non-alcoholic fatty liver disease is the greatest biochemical abnormality in early type 2 diabetes. EASD NAFLD Workshop, May 2017

185. Achieving long term return to normal metabolism in type 2 diabetes: When, Why and How. ADIT Meeting, Belgrade, May 2017

186. Achieving normoglycaemia in type 2 diabetes without drugs. Paraguay Diabetes Conference, Asuncion July 2017

187. Gestational diabetes: The new understanding. Paraguay Diabetes Conference, Asuncion July 2017

188. Understanding type 2 diabetes as a reversible condition. Paraguay Diabetes Conference, Asuncion July 2017

189. Type 2 diabetes: a simple reversible state of calorie excess. Henning Beck Nielsen Retirement Symposium, Odense, September 2017

190. Durable reversal of beta cell failure by calorie restriction. EASD, Lisbon, September 2017

191. Aetiology of type 2 diabetes: a reversible condition. Indian National Endocrinology Conference, Kerela, September 2017

192. The Personal Fat Threshold of type 2 diabetes. Indian National Endocrinology Conference, Kerela, September 2017

193. Reversal of type 2 diabetes: Simplicity revealed. Swedish Diabetes Summit, Gothenburg, November 2017

194. Type 2 diabetes – Can strategies in adults be implemented in adolescence? British Society for Paediatric Endocrinology, November 2017

195. DiRECT – Identifying the cause of type 2 diabetes. Plenary Lecture, IDF, Abu Dhabi, December 2017

196. DiRECT - Metabolic mechanisms behind remission of type 2 diabetes. Plenary Lecture, IDF, Abu Dhabi, December 2017

197. Calorie restriction for long term remission of type 2 diabetes. RCP London Advanced Medicine Course, February 2018

198. DiRECT Knowledge: Aetiology and Reversibility of Type 2 Diabetes. Keynote Lecture, Oxford NIHR BRC Symposium, Oxford February 2018

199. Diabetes in Pregnancy. RCOG Maternal Medicine Course, London March 2018

200. Understanding the How and why of remission. Plenary symposium, Diabetes UK Annual Professional Conference. London March 2018

201. The DiRECT results – symposium report. Diabetes Insider Meeting for people with diabetes, London March 2018

202. Update on DiRECT: Results and Implications. ADIT Meeting, Dubrovnik, April 2018

203. Are we ready to move the diabetes control goal on to reversing? 3rd Latin American Congress on Endocrinology, Cartegena, April 2018

204. New anti-diabetic medication and cardiovascular risk: Enough evidence to change medical practice guidelines? 3rd Latin American Congress on Endocrinology, Cartegena, April 2018

205. DiRECT: The Future. Hot Topics in Diabetes, Portsmouth, May 2018

206. Understanding and management of type 2 diabetes into the future ABCD Meeting, Glasgow, May 2018

207. From understanding to action: A rational approach to type 2 diabetes. Faculte de la Sante Publique, Paris, May 2018

208. Nutritional management and prevention of type 2 diabetes. Swiss Re Conference, Zurich, June 2018

209. DiRECT impact on the understanding and future management of type 2 diabetes. Oxford Advanced Diabetes Course, Oxford, July 2018

210. Reversal of Type 2 Diabetes Throughout the Lifecourse. UK Congress on Obesity, Newcastle September 2018

211. Case finding for NAFLD/NASH. European Association for the Study of the Liver, Geneva, September 2018

212. DiRECT view on the future of type 2 diabetes management. Hot Topics Symposium, Lumley Castle, September 2018

213. What exactly is type 2 diabetes? Federation of European Nurses in Diabetes Meeting, Berlin, September 2018

214. DiRECT - A brighter future for people with type 2 diabetes. Novartis Symposium, EASD, Berlin, October 2018

215. The role of beta cell recovery in achieving reversal of human type 2 diabetes. 5th Banting and Best Diabetes Research Centre, Joslin Clinic and Danish Diabetes Academy Meeting, Copenhagen October 2018

216. Understanding the aetiology of type 2 diabetes using population scale remission. Von Mering Medal Lecture, Dusseldorf, October 2018

217. The Energy Crisis and type 2 diabetes. Human Nutrition Research Centre Research day, Newcastle, October 2018

218. Food and type 2 diabetes: Restoring the milieu interieur. European Genomic Institute For Diabetes, Lille, December 2018

219. NU retired staff, December 2018

220. The new approach to treating type 2 diabetes. Amble & Warkworth Diabetes UK Group, January 2019

221. Long term reversal of type 2 diabetes: separating metabolic from human factors. Swedish Endocrine Society Annual Meeting, Sweden, February 2019

222. Diabetes UK Professional Conference, March 2019

223. Fourth African Diabetes Congress, Yaounde, April 2019

224. Faculty of the 4th World Congress on Interventional Therapies for T"D, New York, April 2019

224. Reversing diabetes – the story of the DiRECT trial and the 800 calorie diet. National Diabetic Eye Screening Conference, London, April 2019

225. AACE – 28th Annual Scientific & Clinical Congress, Los Angeles, April 2019

226. LifeCycle, Malta, May 2019

227. Reversing to enlightenment: Type 2 diabetes. ICM Director's Day, May, 2019

228. Diet as a cure of type 2 diabetes – Lessons from the DiRECT study. Diabetes Congress 2019, Berlin, May 2019

229. Diabetes, Remission of Type 2 Diabetes for Two Years Is Associated with Full Recovery of Beta-Cell Functional Mass in the Diabetes Remission Clinical Trial (DiRECT). ADA 79th Scientific Symposium, San Francisco, June 2019

230. Prospective Study to Personal Threshold. Oxford Symposium, Keble College, Oxford, Jul 2019

231. EASD, Barcelona, September 2019

232. Real-time physiology using magnetic resonance techniques: Defining the aetiology of type 2 diabetes. Academic Doctors, Newcastle University, October 2019

233. Type 2 Diabetes Population Intervention. Spark Workshop, Netherlands Centre of Lifestyle Medicine. Leiden, October 2019

234. DiRECT study. Trend UK Diabetes Nursing Conference 2019, London, October 2019

235. Remission of T2DM: is it real and feasible? Seventh Mantova Workshop on Diabetes Mellitus and Related Conditions, Italy, October 2019

236. The new understanding of type 2 diabetes and future challenges. HNRC 25th Anniversary conference, Newcastle University, October 2019

237. The simplicity of type 2 diabetes – and what to do about it. Diabetes Professional Care Conference, London, October 2019

238. Low calorie diets to treat obesity and Type 2 diabetes. Diabetes Professional Care Conference, London, October 2019

239. Changing gear for good and driving T2DM in reverse. RCGP Conference, Newcastle, October 2019

240. Physiological basis of the aetiology and reversal of type 2 diabetes: Relevance to Primary Care management. Finnish Diabetes day, Helsinki, November 2019

241. Reversing type 2 diabetes in the real world. Derby Medical Society, Derby, January 2020

242. Making things happen. Policy Academy Fellows Programme 2020, Newcastle University, February 2020

243. The new understanding of type 2 diabetes. 4th International Diabetes Summit, Pune, India March 2020

244. Practical achievement of remission of type 2 diabetes. 4th International Diabetes Summit, Pune, India March 2020

245. Clinical aspects of long term remission of type 2 diabetes. American Diabetes Association Annual Scientific Sessions, Chicago (virtual), June 2020

246. The new understanding of type 2 diabetes: A reversible condition. St Petersburg (virtual), September 2020

247. Remission of T2DM: Mechanistic Lessons from Counterpoint, Counterbalance and DiRECT. The Obesity Society Annual Meeting, San Diego (virtual), November 2020

248. Averting the looming global pandemic – lessons from the DiRECT, Counterpoint and Counterbalance Research Studies. American College of Lifestyle Medicine Annual meeting, Atlanta, Georgia, November 2020

249. Aetiology of type 2 diabetes and its practical implications. Guest lecture, University of The Pacific, California, December 2020

250. T2DM: Simple etiology but heterogenous individuals. 2021 Keystone Symposia on Obesity, USA. January 2021

251. Type 2 diabetes: The other elephant in the room. Sir Robert W Philip Lecture of The Royal College of Physicians of Edinburgh, March 2021

252. Promises and Pitfalls of type 2 diabetes remission. Chelleram International Diabetes Symposium, Pune, March 2021

253. Does type 2 diabetes differ between ethnicities? Chelleram International Diabetes Symposium, Pune, March 2021

254. Type 2 diabetes in the real world: From understanding aetiology to practical treatment. ADIT Conference (virtual), March 2021

255. Understanding aetiology of type 2 diabetes underpins the practical details for remission. Netherlands Obesity Meeting, Utrecht, April 2021

256. Low carb diet in type 2 diabetes in children and young people: Can we learn from adult colleagues? Diabetes UK symposium, April 2021.

257. 2021 Practical Management of Type 2 Diabetes - Guided By its Simple Aetiology. All India Crossconnect Conference, May 2021.

258. Aetiology of type 2 diabetes revealed by studies of onset and remission. Netherlands Lifestyle Medicine Conference, June 2021

259. Magnetic resonance insights to practical therapy: Achieving effective weight loss and remission of type 2 diabetes. American Diabetes Association symposium on type 2 diabetes remission, June 2021

260. How and why type 2 diabetes can be reversed to normal. Oxford Ophthalmology Conference, Oxford, July 2021

261. Understanding the cause of type 2 diabetes – and remission. Australia Diabetes Summit, July 2021

262. Remission of type 2 diabetes: the vital role of weight loss. 1 Cumbre Virtual Internacional Cardiometabólica y Renal, 2ª Reunión Regional Virtual de Cardiología 2021 y 13ª Conferencia Científica Anual sobre Síndrome Metabólico, Mexico, July 2021

263. Achieving long term remission of type 2 diabetes via knowledge of aetiology. British Society of Lifestyle Medicine: Edinburgh 2-4 September 2021

264. The aetiology of type 2 diabetes and its application to routine treatment. Keynote lecture at DDZ annual research symposium, Dusseldorf, October 2021

265. Should Metformin be the 1st line monotherapy of T2DM? ABCD Debate, October 2021

266. Type 2 diabetes remission possible – Why and How. Society for Endocrinology Annual Meeting, Edinburgh, November 2021

267. Reversal of Type 2 Diabetes: The Current Position. Diabetes Professional Conference, London, November 2021

268. Living Without Diabetes. Freedom From Diabetes Muktotsav, India, December 2021

269. Etiology of type 2 diabetes. University of California Grand Rounds. Davis USA, January 2022

270. Remission of type 2 diabetes – practical insights. Emirates Diabetes Society Conference, Dubai, February 2022

271. Thresholds for metabolic effects of NAFLD across the BMI range. NAFLD Workshop May 2022

272. Understanding type 2 diabetes across the BMI range. Diabetes India online conference, May 2022

272. The root cause of type 22 diabetes – irrespective of BMI. Peking University Diabetes Forum, May 2022

273. Type 2 diabetes: From hypothesis to NHS remission programme. European Endocrine Conference, Milan May 2022

274. Temporal aspects of remission of type 2 diabetes. American Diabetes Association, New Orleans, June 2022

275. Fat - the problem and the solution. ABCD Insulin Centenary Meeting, London July 2022

276. Eyes wide open – Type 2 diabetes. British Association of Retinal Screeners, annual meeting September 2022

277. Mechanisms of weight loss induced remission in people with type 2 diabetes but normal BMI. EASD September 2022

278. Type 2 diabetes: Now understandable al lthe way to remission. Diabetes Professional Care Conference. November 2022

279. Research to Clinical Practice. Annual Tyneside Retinal Screening Meeting. December 2022

280. Remission of Type 2 Diabetes – Fact and Fiction. International Diabetes Conference, Dubai Feb 2023

281. Getting real about food and exercise in type 2 diabetes. International Diabetes Conference, Dubai Feb 2023

282. The myth of heterogeneity in type 2 diabetes. Chelleram International Diabetes Conference, Pune, India March 2023

283. Getting the balance between food and exercise in type 2 diabetes. Chelleram International Diabetes Summit, Pune, India March 2023

284. Remission of type 2 diabetes – pathophysiology and practicality. Department of Medicine, Tubingen University Medical School

285. Remission of type 2 in people with lower body weight: The ReTune study. Diabetes UK Professional Conference, Liverpool April 2023

286. 5 year outcomes of the DiRECT study. Diabetes UK Professional Conference, Liverpool April 2023

287. Achieving remission in type 2 diabetes. Association of Children's Diabetes Conference, Birmingham, May 2023

288. Understanding type 2 diabetes and its remission. Public Health Conference, Sheffield, May 2023

289. Remission of Type 2 Diabetes – Pathophysiology and Practicality Tubingen, Germany May 2023

290. Achieving remission in type 2 diabetes. Aalborg, Sweden May 2023

291. Weight loss via an acceptable low calorie diet:Insight into the causative mechanisms of type 2 diabetes. American Diabetes Association, San Diego, June 2023

292. Mechanism of type 2 diabetes reversal. ESPEN meeting, Lyon, France Sept 2023

293. Life Without Diabetes. Primary Care Diabetes Society, Birmingham, Sept 2023

294. Role and determinants of individual tolerability of 'obesity' in diabetes development: Lessons from the Twin Cycle Hypothesis. EASD Hamburg, Sept 2023

Clinical Work

I carried a full time clinical commitment as Head of Clinical Unit until 2003 when the balance of academic and clinical work changed to allow focus upon metabolic research and magnetic resonance spectroscopy. Outpatient work in Obstetric Diabetes, General Diabetes, Retinal Screening and General Medicine occupied around 50% of the working week until 2016 when the demands of the clinical research became full time.

My Diabetes Service was developed to be at the forefront of clinical care and to provide excellent training for junior doctors. Audit and reaudit of my Coronary Care, peri-operative and acute medical admission diabetes guidelines led to major improvements in clinical care. The weekly post-clinic case discussion meeting allowed dissemination of knowledge and ensured a uniformity of clinical management in the service. The Mobile Retinal Camera service to screen for diabetic retinopathy was established by myself in 1986 and I continued to provide advice and a rapid track to treatment for the Region. In 2000 I introduced a digital screening system using high resolution equipment, this being the only such advanced system at the time in the UK. I raised funds following the success of the Newcastle unit to carry out a multicenter study, establishing 11 other mobile units nationwide. The resulting data from the 64,000 Screening Episodes study led directly to the establishment of a national retinal screening programme. The effective prevention of blindness due to diabetes was demonstrated first in Newcastle and later throughout England, with diabetes being shown to be no longer the leading cause of avoidable blindness in the working age population.

I ran the medical obstetric service for the combined Newcastle Obstetric Unit until 2016, and with outpatient clinics in addition to inpatient and emergency work. Clinical research was published on the optimum management of diabetic pregnancy and labour. Observational studies on the role of high-dose steroids in the management of hyperemesis gravidarum led to the 2015 Green Top Guideline on this condition from Royal College of Obstetrics & Gynaecology. This highly effective and safe treatment for severe hyperemesis is now accepted in the UK, and termination is no longer regarded as the only option.

Particular Achievements

Research

1. Elucidation of the aetiology of type 2 diabetes followed from formal testing of the Twin Cycle Hypothesis by the Counterpoint Study, and this proof by the Counterpoint study was published in 2011. Ultimately, this has led to an international statement defining remission of type 2 diabetes (2021).
2. The Counterpoint study also demonstration that type 2 diabetes is a reversible metabolic syndrome dependent upon the excess fat exposure of pancreas and liver.

This has had direct impact upon care of people with type 2 diabetes, and has also empowered many around the world to lose weight and reverse their own diabetes. It led directly to the establishment of a National NHS pilot scheme to identify the most cost effective way to achieve the necessary weight loss.

3. Demonstration of the involuted nature of the whole pancreas in established type 2 diabetes and recovery of both pancreas volume and morphology during prolonged remission of type 2 diabetes.
4. Demonstration of the uniform aetiology of type 2 diabetes, by proving that remission was possible in people with normal BMI and was accompanied by the same pathophysiological changes as for heavier people.
5. Application of ^{13}C magnetic resonance spectroscopy to determine the role of skeletal muscle and liver in acute storage of meal derived substrate in normal and diabetic man which, in more insulin resistant individuals is inadequate leading to disposal of meal derived glucose by *de novo* lipogenesis.
6. Demonstration of insulin responsive and unresponsive phases in the post-exercise recovery of muscle glycogen stores in man.
7. Development and application of stable isotope methodology for the assessment of post-prandial hepatic glucose output in health and disease.
8. Contribution to knowledge and development of concepts relating to the processes of insulin signalling in muscle of normal and diabetic man:
   - Development of human myoblast culture to permit work on the insulin signalling defect in NIDDM.
   - Proof of the intrinsically inherited nature of tissue insulin insensitivity using cells passaged in culture from individuals with and without family histories of NIDDM.
   - Elucidation of the degree of lack of insulin responsiveness of muscle glycogen synthase in Caucasian NIDDM and the effect of conventional treatment upon this.
   - Demonstration of unique nature of insulin signalling in individual cell types.
   - Demonstration of separate modulation of insulin receptor activity and post-binding pathway regulation.
7. Documentation of the natural history of diabetic retinopathy and effect of screening upon blindness rates. Impact of effective quality assurance systems in retinal screening. Establishment of a National Eye Screening Programme.

Clinical Medicine

1. Demonstration of the reversible nature of type 2 diabetes, in people of all BMI levels, with achievement of a paradigm shift in clinical management.
2. Development of technology and clinical system to support the prototype mobile retinal screening vehicle with subsequent demonstration of the sensitivity and specificity of the technique in screening for sight-threatening diabetic retinopathy. The Handbook of Retinal Screening in Diabetes (successor to A Practical Guide to Polaroid Retinal Photography) is in widespread use in its second edition. The interactive CD-ROM on retinopathy broke new ground as a means of communicating impact of treatment upon patients. The innovative digital screening system has attracted widespread attention and a National screening system has resulted from my original research. Co-founding the British Association of Retinal Screeners has led to recognition of screeners as a distinct professional body, and this association is now

large and thriving.

3. Establishment of nationally recognised Out-Patient Diabetes Service conducive to modern patient care as well as undergraduate and postgraduate teaching.
4. Development of active obstetric medical service. In particular, the optimum management of diabetic pregnancy and the management of hyperemesis gravidarum using prednisolone has been established. Practical guidelines on management of life-threatening hyperemesis have been published.
5. Application of knowledge of metabolic work to develop and to popularize novel, sound management for patients with type 2 diabetes.

Teaching

1. The success of my introduction of the first systematic Clinical Methods teaching course in 1984, led to the opening of Newcastle Clinical Skills Laboratory in 1994 together with an innovative system for clinical skills teaching as part of the new (1994) Newcastle clinical curriculum. This was subsequently nationally recognised as being outstanding (24/24 in the national Teaching Quality Assessment exercise). The Clinical Skills Course remained a central part of the Newcastle clinical curriculum fore many years.
2. As deputy Director Teaching for Newcastle Hospitals I developed a system for evaluation of quality of clinical teaching and hence driving up quality of delivery.
4. Establishment and supervision of Newcastle practical retinal screening training programme for retinal screeners. Expansion of this to train retinal screeners from the northern half of the UK during the establishment phase of the National Programme.
5. Delivering innovative Science into Schools Programme to encourage children to consider careers in physics in relation to Medicine.
6. Postgraduate lectures nationally and internationally, informing doctors and scientists of best clinical practice based on clarity of understanding of metabolism.

Management

1. Management of successful fundraising (£5.2 million) to found the Newcastle Magnetic Resonance Centre and to establish the Newcastle Chair in Medical Resonance Physics. Subsequent fundraising (to install the second 3T whole body scanner (2014).
2. Directorship of Newcastle Magnetic Resonance Centre from August 2005 to March 2020. This involved the *de novo* set up of this new research centre. In particular, building the team of physicists to drive innovation of techniques has been outstandingly successful not only for diabetes but also for other disciplines. Following opening the MR Centre, it was possible to bid for funding to build the adjacent Clinical Ageing Research Unit (CARU). A new University Campus has now been constructed around the Centre as a direct consequence of these developments.
3. Advice upon management of retinal screening services throughout the UK and achieving coordinated national action has resulted in the present UK system of screening.
4. Enlisting the cooperation of all physicians and surgeons in the Region was a major management exercise to produce a coordinated team able to deliver the highly successful 1994 Clinical Skills course that I devised as the basis for the new curriculum, alongside the new regionalized final year clinical placement in Medicine.
5. Management by motivation and leadership of both research and clinical teams has

permitted innovation and consistent achievement of specific goals in excess of that consistent with resource availability.