# **CURRICULUM VITAE - ROY TAYLOR MBE**

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### **Personal Details**

Civil status:	Married/4 chil	dren
Civil honour:	MBE 2023	
Qualifications:	MB ChB MRCP MD	University of Edinburgh 1973 University of Edinburgh 1976 1978 University of Edinburgh 1985 1989 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 Life Membership of the British Association of Retinal Screening 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 MBE awarded; King Charles' New Year Honours January 2024 Robert Turner Prize for Research Impact – Diabetes UK 2023 Rank Prize for Nutrition 2024 The Claude Bernard Prize Lecture – EASD 2024

#### 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 'Type 2 Diabetes Path to Remission' program of 2019 ongoing

Chairman of DiGEST Steering Committee, University of Cambridge 2018-2024

Member of the LEGEND (Low EnerGy diEt iN adolescents with obesity and type 2 Diabetes) trial steering group 2024-

Chairman of DIASTOLIC Steering Committee, University of Leicester 2017-2000

Member of UK Government 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, New England Journal of Medicine, British Medical Journal, Lancet, Cell Metabolism, Cell Reports, Clinical Endocrinology, Hepatology, Diabetes, Diabetologia, Diabetes Care, American Journal of Physiology, Clinical Science, 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, Brisitsh Heart Foundation, 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

Director of Newcastle Magnetic Resonance Centre 2005-2021 President of Newcastle Branch of Diabetes UK 2014 -2020 Director of Newcastle Magnetic Resonance Centre, 2005-2021 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
1770 1771	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
1992 1990	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
  - 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. Newcastle upon Tyne Scientific and Research Committee. Muscle insulin 1985-1986 sensitivity in normal and diabetic man. £14,000. Sole Investigator. British Diabetic Association Group Grant. £200,000. Co-investigator. 1985-1990 1986-1987 Newcastle upon Tyne Scientific and Research Committee. Hepatic and peripheral tissue insulin sensitivity in normal ageing. £16,000. Sole Investigator. British Diabetic Association. Northern Region mobile retinal camera 1986-1989 project. £54,000. Sole Investigator. 1987-1989 Glaxo Research Division. Muscle insulin sensitivity in vivo and in vitro. £41,000. Sole Investigator. Bayer UK. Sucrose absorption and insulin sensitivity. £15,000. Sole 1988-1989 Investigator. Newcastle University Research Committee. Indirect calorimetry in diabetes 1988-1990 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. Servier Laboratories. Effect of gliclazide on human muscle in vitro. 1989-1990 £19,000. Sole Investigator. Glaxo Group Research. Modulation of human muscle glucose and fatty 1991-1992 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. British Diabetic Association. Further studies of cultured human muscle. 1995-1998 £26,000. Principal Investigator. British Diabetic Association. Effect of TNF on insulin action in cultured 1998-1999 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
2001-2003	cells from subjects with Type 2 diabetes. £11,919. Sole Investigator. Eli Lilly. Normalisation of postprandial metabolism in type 2 diabetes: Use
2001-2004	of short acting insulin analogues. £88,677. Sole Investigator. Eli Lilly. Characterisation of the natural history of diabetic retinopathy
2002-2003	during modern diabetes management. £94,214. Sole Investigator. Takeda UK. Effect of enhancing insulin sensitivity upon postprandial
2004-2006	hepatic glucose output. £54,000. Sole Investigator. 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 2005	Magnetic Resonance Centre capital award from OneNorthEast £1 million. William Leech Foundation support for named lectureship in MR Physics
2006 2007	£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
2008-2009	application in type 2 diabetes. £160,000. 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
2010-2011	diabetes. £126,000. Principal Investigator. 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
2012-2015	Investigator. 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 to 5 years. £500,000. Co-Principle
	investigator.
2017-2022	Diabetes UK. <u>Reversal of Type 2 diabetes Upon Normalisation of Energy</u>
	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
100 - 1000	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
1900-1991	metabolism' (Brendan G. Cooper). Thesis accepted 1992.
1990-1994	'Modulation of insulin sensitivity in muscle' (Judith Webster). Thesis
1990 1991	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
2015 2010	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 by Newcastle University 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
- European Association for the Study of Diabetes 1981 2.
- 3. Thyroid Club - 1980
- 4.
- Biochemical Society 1985 American Diabetes Association 1986 5.
- Association of Physicians of Great Britain and Ireland 1991 6.
- International Society for Magnetic Resonance in Medicine 1991 7.
- British Association of Retinal Screeners (co-founder) 2001 and Life 8. Membership awarded 2013

# **Original Papers**

- 1. Butterworth AE, Sturrock RF, Houba V, Taylor R. Antibody dependent cell mediated damage to <sup>51</sup>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

- 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
- 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
- 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
- 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
- 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
- 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

- Zeuzem S, Taylor R, Agius L, Albisser AM, Alberti KGMM. Biological effects of sulphated insulin in adipocytes and hepatocytes. *Molecular and Cellular Biochemistry* 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
- 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
- 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
- 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
- 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
- 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
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## **Reviews, Editorials and Book Chapters**

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# **Short Commentaries**

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- C13. Taylor R. Interleukin 10 production and type 2 diabetes. International Diabetes Monitor 15:23-24, 2003
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### **Invited Lectures**

- 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
- Initiation of insulin action in human adipocytes by monoclonal anti-receptor antibodies.
   Third International Symposium on Insulin Receptors, Madrid, November 1986
- 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
- Non-insulin dependent diabetes No longer the poor cousin.
   Croom Lecture of Royal College of Physicians of Edinburgh, November 1988
- 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
- Insulin treatment in diabetes When and how.
   Royal College of Physicians of Glasgow, Oct 1989
- Pregnancy and insulin dependent diabetes change in insulin sensitivity and implications for management.
   Clinical Nutrition Meeting, Leeds, Sept 1989
- Management of diabetes in the future. Royal College of Physicians of London, March 1990
- 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
- Modulating insulin sensitivity in non-insulin dependent diabetes.
   Frontiers in Diabetes Research, Steno Hospital, Copenhagen, May 1992
- 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
- Insulin treatment in NIDDM: Lessons for pathogenesis.
   Endocrine Grand Rounds, Yale University Medical School, June 1993
- 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
- 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
- Insulin resistance Royal College of Physicians of Edinburgh, February 1996
- Screening for diabetic retinopathy in primary care.
   Royal College of Ophthalmologists, London, September 1996
- 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
- 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
- Control of post-prandial blood glucose: The potential of new treatments. Glasgow Lilly pre-conference symposium, April 1999
- 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
- 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
- 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
- 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, 50<sup>th</sup> Anniversary Symposium of Medical Faculty, Paraguay, August 2007
- 83. Diabetes and the Heart, 50<sup>th</sup> Anniversary Symposium of Medical Faculty, Paraguay, August 2007
- 84. Magnetic Resonance and Diabetes, 50<sup>th</sup> 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. 6<sup>th</sup> 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
- Debate: Bariatric Surgery is The Cure for Type 2 Diabetes. 2<sup>nd</sup> Excellence in Diabetes Conference, Qatar, February 2014
- 135. How much Pie? Food, Health and Diabetes. Plenary lecture, Diabetes UK Annual Scientific Conference, March 2014
- 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
- 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
- Managing the Vascular risk associated with NAFLD: VLDL<sub>1</sub>-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
- 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
- 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? 3<sup>rd</sup> Latin American Congress on Endocrinology, Cartegena, April 2018
- 204. New anti-diabetic medication and cardiovascular risk: Enough evidence to change medical practice guidelines? 3<sup>rd</sup> 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. 5<sup>th</sup> 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 4<sup>th</sup> 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 79<sup>th</sup> 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 25<sup>th</sup> 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

- 295. Demystifying Type 2 Diabetes. Diabetes Australia. Zoom Lecture, Nov 2023
- 296. Type 2 Diabetes: From Twin Cycle Hypothesis to NHS England National Remission Program. Joslin Clinic Grand Rounds Boston, US. Dec 2023
- 297. The Twin Cycle Hypothesis: From concept to routine application for type 2 diabetes remission. Physiological Society. Manchester UK Mar 2024
- 298. The holy grail diabetes remission: Lessons from DiRECT and beyond. European Young Diabetologist forum. Bologna, Apr 2024
- 299. What we learned from the DiRECT trial. European Congress on Obesity. Venice May 2024
- 300. Achieve remission! ADA Scientific Sessions symposium. Orlando June 2024
- 301. Long term remission: Lessons from DiRECT. Satellite Symposium, ADA Scientific Sessions. Orlando June 2024
- 302. Type 2 diabetes: An experimental medicine odyssey. Claude Bernard lecture, EASD. Madrid Sept 2024

- 303. Type 2 diabetes: Getting real about body mass index. Augusto D. Litonjua Endowed Lecture, Philippines Diabetes Association Manila Nov 2024
- 304. Pathophysiology Of Type 2 Diabetes Reversal and Ongoing Remission. 4<sup>th</sup> Malaysian Lifestyle Conference, Kuala Lumpur Nov 2024
- 305. Body weight and type 2 diabetes: Seeing the wood from the trees. Rural GP Assoc of Scotland, Inverness Nov 2024
- 306. Type 2 Diabetes: Achieving Remission. Barbados Diabetes Society and The University of the West Indies, Bridgetown Nov 2024
- 307. Type 2 diabetes in 2024: A frameshift in knowledge and management. Mount Sinai School of Medicine Grand Round, New York Jan 2025
- 308. Effective management of type 2 diabetes: How to achieve remission. Congresso Potugues de Endocrinologia, Porto, Jan 2025

## **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 increased focus upon metabolic research and magnetic resonance spectroscopy. From 1985 to 2016, outpatient work in Obstetric Diabetes, General Diabetes, Retinal Screening and General Medicine occupied 50% of the working week.

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, perioperative 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. Weight loss during pregnancy for gestational diabetes was introduced as a clinical management option.

# **Particular Achievements**

## Research

- 1. Elucidation of the aetiology of type 2 diabetes followed formal testing of the Twin Cycle Hypothesis in the Counterpoint Study, and this was published in 2011. This has subsequently been corroborated and extended by the Counterbalance, Pancreas, DiRECT and ReTUNE studies. Importantly, this research thrust has led directly to an ADA/EASD/DUK consensus statement defining remission of type 2 diabetes (2021).
- 2. The Counterpoint study's demonstration that type 2 diabetes is a reversible metabolic syndrome dependent upon the excess fat exposure of pancreas and liver 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 (started 2021) and a full national Type 2 Diabetes Path to Remission Programme (2025).
- 3. Demonstration of the involuted whole pancreas in type 2 diabetes but with recovery of both pancreas volume and morphology during prolonged remission of type 2 diabetes.
- 4. Demonstration of the uniform aetiology of type 2 diabetes in people with normal or raised BMI and that weight loss-induced return to normal function was determined by the same pathophysiologic changes as for heavier people.
- 5. Application of <sup>13</sup>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. This leads to disposal of meal derived glucose by *de novo* lipogenesis and accumulation of saturated fat in liver.
- 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 with subsequent sharp decrease in national rates of blindness.

### Clinical Medicine

- 1. Demonstration of the reversible nature of type 2 diabetes, in people of all BMI levels. I have guided this research from initial hypothesis to achieve a paradigm shift in NHS clinical management. There is now a fully funded Path to Remission service for all with type 2 diabetes within 6 years of diagnosis.
- 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 a national noted 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 both in person and by the Royal College of Obstetrics and Gynaecology.
- 5. Publication of books written for lay people and doctors to popularize and permit sound management for all with type 2 diabetes.

# Teaching

 The success of my introduction of the first systematic Clinical Methods teaching course in 1984 led to the opening of the 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 for many years.
 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 a practical retinal screening training programme for retinal screeners in Newcastle. 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 in communicating understanding of metabolism.

#### Management

1. Management of successful fundraising ( $\pounds$ 5.2 million) to build the Newcastle Magnetic Resonance Centre and to establish the Newcastle University Chair in Medical Resonance Physics. Subsequent fundraising of £1.5 million to install the second 3T whole body scanner in 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 acquire 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. All three senior physicists originally recruited to set up the MR Centre still are in Newcastle.

Advice upon management of retinal screening services throughout the UK and achieving coordinated national action has resulted in the present UK system of screening.
 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.