

# **Curriculum Vitae**

***John Donncha Hanrahan***

May 2013

**Name** HANRAHAN, John Donncha

**Address**



**Date of Birth**



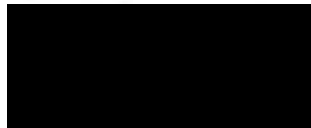
**Nationality**



**Marital Status**



**Education**  
(a) *Secondary*



**Languages** English, French, Irish

## Education

### (b) *Medical School*

University College Dublin

## Qualifications

(a) *University* MB, BCh, BAO, 1985

### (b) *Post-graduate and Professional*

Diploma in Child Health, 1988

MRCPI , 1990 (Medicine of Childhood)

MD, 1998

FRCPCH, 2002

## Prizes

European Society for Paediatric Research (Rotterdam, July 1994)  
Best oral presentation

## Affiliations

<i>Body</i>	<i>Membership Number</i>
Medical Council of Ireland	████████
General Medical Council (UK)	████████
Medical Defence Union	████████

## **Professional Experience**

### **(a) General**

**July-Dec 1985 Medical Intern, Monaghan Co. Hospital, Co. Monaghan**

*Consultants:* Dr B MacMahon, Dr P Pillay

This post was my first postgraduate appointment. During it, I gained experience in adult medical care, as well as in basic paediatric care, and became competent in performing a variety of investigative techniques. It carried a 1:3 rota.

**Jan-June 1986 Surgical Intern, St Vincent's Hospital, Elm Park, Dublin 4**

*Consultants:* General Surgery; Mr F Cunningham

Neurosurgery; Mr C Pidgeon, Mr F Donovan

This pre-registration post involved a period in general surgery and in neurosurgery. I was responsible for the assessment and the pre and post operative care of surgical patients. It carried a 1:4 on-call commitment.

**July-Dec 1986 Surgical SHO, St Mary's Hospital, Cappagh, Dublin 11**

*Consultants:* Mr J Gallagher, Mr N Mulvihill, Mr B Hurson

This six months position was my first post-registration appointment. The on-call commitment was 1:5 (weekends). While principally involved with joint replacement in elderly patients, I was also afforded the opportunity to work with patients, including children, with orthopaedic complications of neurological disease.

**Jan-June 1987 Medical SHO, St Mary's Hospital, Cappagh, Dublin 11**

*Consultants:* Dr B Keogh, Dr J Devlin

This post was principally devoted to the assessment and pre and post operative care, including emergencies, of patients admitted for orthopaedic procedures. The on-call commitment was 1:5 (weekends).

**July-Dec 1987 SHO, St Vincent's Private Hospital, Elm Park, Dublin 4**

This position, one week on, one week off, was principally service-related, involving the care of patients admitted for medical and surgical reasons. During this post, I acquired part 1 of the MRCPI.

## **Professional Experience**

### **(b) *Paediatric***

#### **Jan-June 1988 SHO in Paediatric Neurology, Our Lady's Hospital for Sick Children, Crumlin, Dublin 12**

*Consultant:* Dr J McMenamin

This post provided me with my initial formal paediatric experience. I gained exclusive experience in Paediatric Neurology, and general paediatrics on call (1:5). I participated in twice weekly neurology and epilepsy clinics, and was responsible for ongoing inpatient investigation and treatment.

The research carried out during this position concerned the diagnosis of *Herpes simplex* encephalitis.

#### **July-Dec 1988 SHO in Neonatology, National Maternity Hospital, Holles Street, Dublin 2**

*Consultants:* Dr J Murphy, Dr W Gorman, Dr N O'Brien

This post formed the second part of a one-year paediatric SHO rotation. During it, I was deemed senior SHO, and assumed effectively the responsibilities of a registrar. The post carried a 1:3 rota, and I acquired extensive experience in the intensive care management of ill neonates. I participated in weekly follow-up infant clinics, and contributed to monthly perinatal meetings.

#### **Jan-Dec 1989 Registrar in Neonatology, National Maternity Hospital, Holles Street, Dublin 2**

*Consultants:* Dr J Murphy, Dr W Gorman, Dr N O'Brien

This was a formal registrar position, and was similar to the previous appointment. It formed the first part of a two-year paediatric registrar rotation. I continued to acquire experience in neonatal intensive care, again on a 1:3 rota. I attended weekly hospital-wide reviews and presented paediatric data at these. I was also involved in medical student teaching.

During this appointment, my research concerned the clinico-pathological features of non-immune hydrops foetalis, and I collaborated with others in a study of the system of inter-hospital neonatal transfer.

## **Professional Experience**

### **(b) *Paediatric (Cont)***

#### **Jan-Dec 1990 Registrar in Paediatrics and Paediatric Neurology, The Childrens' Hospital, Temple Street, Dublin 1**

*Consultants:* Paediatric Neurology; Dr M King

Paediatrics; Dr N O'Brien, Dr O Hensey, Prof JJ Fennelly

This appointment completed the registrar rotation that had been commenced in the National Maternity Hospital. It carried a 1:6 on-call rota, with responsibility for medical student teaching.

The first six months gave me experience in general paediatrics, including respiratory paediatrics and paediatric oncology. I conducted weekly outpatient clinics and was responsible for inpatient care, both on the wards and on intensive care.

The second six months furthered my experience, at registrar level, in Paediatric Neurology. I participated in twice weekly neurology clinics, and was responsible for planning the investigation and treatment of inpatients on the wards and on intensive care.

During this year, I conducted a review of the status of the first children detected as hypothyroid by the National Neonatal Screening Programme. I also at this time acquired my MRCPI.

#### **Jan-June 1991 Registrar in Paediatrics, Our Lady's Hospital for Sick Children, Crumlin, Dublin 12**

*Consultant:* Dr C Costigan

This post afforded me further general paediatric experience, principally in endocrinology. I conducted weekly general and endocrine clinics, and participated in medical student teaching. It carried a 1:8 rota, with responsibility for inpatients on the wards and intensive care, including infants with cardiac lesions.

## **Professional Experience**

### **(b) *Paediatric (Cont)***

**July 1991-April 1992 Registrar in Paediatric Neurology, Royal Hospital for Sick Children, Yorkhill, Glasgow G3 8SJ**

*Consultant:* Dr JBP Stephenson

This post gave me further experience in Paediatric Neurology, and the multidisciplinary approach to managing a developmentally compromised child. I oversaw the inpatient and outpatient investigation and management of children with neurological disease, including epilepsy. The on-call commitment was 1:3, as neonatal registrar, in Stobhill General Hospital. I regularly taught medical students from the University of Glasgow.

The research I conducted during this post concerned the treatment and outcome of *Herpes simplex* encephalitis in infants.

**May 1992 Locum Consultant Paediatrician, Mullingar General Hospital, Co Westmeath**

**June 1992 Locum Consultant Paediatrician, Castlebar General Hospital, Co Mayo**

The above two posts gave me preliminary general paediatric consultant experience. They carried a 1:2 rota, and involved the management of a wide variety of paediatric conditions.

**Feb-July 1993 SHO in Paediatric Neurology, The Hospital for Sick Children, Great Ormond Street, London WC1N 3JH**

*Consultants:* Dr J Wilson, Dr E Brett, Prof B Neville, Dr R Surtees

This post provided me with experience of more specialised Paediatric Neurology. I was closely involved in the investigation and management of a wide range of conditions, referred from around the world for further assessment. The rota was 1:3, and I also acquired experience in the management of paediatric neurosurgical patients, including those with neoplastic disease.

## **Professional Experience**

### **(b) Paediatric (Cont)**

**August 1993 Locum Registrar in Paediatric Neurology, The Hospital for Sick Children, Great Ormond Street, London WC1N 3JH**

*Consultants:* Dr J Wilson, Dr E Brett, Prof B Neville, Dr R Surtees

This position was an extension, at registrar level, of the previous post, with further responsibility for the care of patients on the wards and on intensive care.

**Sept 1993 Locum Paediatric Registrar, General Hospital, St. Helier, Jersey, Channel Islands**

*Consultant:* Dr C Spratt

Pending commencement of my research position, this post carried a 1:2 rota and involved overseeing the care of general paediatric patients.

**Oct 1993 - Oct 1995 Research Fellow, Royal Postgraduate Medical School, Hammersmith Hospital, Du Cane Road, London W12 0HS**

*Consultants:* Prof AD Edwards, Prof GM Bydder

For details of my project, see section concerning Research Interests. As a research trainee, I learnt the methodology of research and study design. I co-ordinated my project, which required the input of a wide range of medical and scientific specialists. During this appointment, I became familiar with magnetic resonance techniques, and participated in the analysis of both spectra and images.



## **Professional Experience**

### **(b) *Paediatric (Cont)***

**Jan-Dec 1996 Senior Registrar in Paediatric Neurology and Paediatrics, The Royal London Hospital, Whitechapel, London E1 1BB**

*Consultants:* Dr S Benton, Dr GJAI Snodgrass

This Senior Registrar position gave me further experience in Paediatric Neurology. The Royal London Hospital is a Teaching Hospital and a tertiary referral centre for the East of London and the South-East of England, and neurological referrals were made accordingly. The hospital is also a major referral centre for patients with head injuries, including children.

I conducted twice weekly neurology and epilepsy clinics, and was responsible for the inpatient management of paediatric neurology patients. I also conducted one general paediatric clinic per week, and was responsible for general paediatrics and neonatology on call (1:6). I conducted weekly medical student tutorials.

During protected research time, as well as working on my MD thesis, which is nearing completion, I regularly attended the neurophysiology department, and have performed numerous EMGs and nerve conduction studies, as well as attending EEG reporting sessions.

**Jan-June 1997 Senior Registrar in Neurodevelopment and Neurodisability, Donald Winnicott Centre, Queen Elizabeth Children's Hospital, London E2**

*Consultant:* Dr S Egan

This post afforded me further experience in the assessment of the developmentally delayed child in the multidisciplinary context. The Donald Winnicott Centre is affiliated to the Queen Elizabeth Hospital for Children and is well served by physiotherapists, occupational therapists, speech therapists, and psychologists. I also attended special schools for children with learning disabilities. The on-call commitment was 1:6 in St Bartholomew's Hospital.

**July 1997 Honorary Registrar in Neurophysiology, The Hospital for Sick Children, Great Ormond Street, London WC1N 3JH**

*Consultants:* Dr S Boyd, Dr M Pitt

This elective attachment gave me exposure to neurophysiological techniques in children, including EEG, EMG, and Nerve Conduction.

## **Professional Experience**

### **(b) Paediatric (Cont)**

**Aug-Dec 1997 Senior Registrar in Paediatric Neurology, The Hospital for Sick Children, Great Ormond Street, London WC1N 3JH**

*Consultants:* Dr S Benton, Dr C de Sousa, Dr P Sonksen

During this appointment, I gained further experience in acute paediatric neurology. In the first two months, I supervised the neurology day care, and had particular responsibility for critical care. This required daily attendance on ward rounds in the paediatric and neonatal intensive care units to provide neurological opinion and input to the care of acutely ill patients. During the final three months, I gained further experience in neurodisability and neurodevelopment in the Wolfson Centre. The on-call commitment, in acute paediatric neurology, was 1:5.

**Jan-June 1998 Honorary Senior Registrar in Neurophysiology, The Hospital for Sick Children, Great Ormond Street, London WC1N 3JH**

*Consultants:* Dr S Boyd, Dr M Pitt

This position afforded me detailed experience in electrophysiological investigations, particularly EEG. I reported, under supervision, both analogue and digital EEG recordings, and regularly attended and assisted at EMG sessions. This post also allowed me the opportunity to attend the weekly Gowers Round in the National Hospital for Neurology and Neurosurgery.

**July 1998 Consultant Paediatric Neurologist, Royal Belfast Hospital for Sick Children, Falls Road, Belfast BT 12 6BE**

*Consultant colleagues:* Dr D Peake, Dr S Tirupathi, Dr C Lundy

## Research Interests

Magnetic Resonance Spectroscopy (MRS) is an exciting, non-invasive method of obtaining *in vivo* metabolic information in man. I have used this technique extensively in neonates. Starting in 1993, I conducted a research project at the Royal Postgraduate Medical School, Hammersmith Hospital, London, which formed the basis of my MD thesis in University College Dublin. The purpose of the project was the early identification of hypoxic-ischaemic injury and the accurate assessment of its severity, using MRS and Magnetic Resonance Imaging (MRI). I co-ordinated the study, and was responsible for the welfare of patients during examination and for data analysis.

<sup>31</sup>P MRS has shown that energy failure after hypoxic-ischaemic injury is a biphasic process. Primary energy failure occurs at the time of injury, and recovers on resuscitation. Secondary energy failure, as shown by a decline in the ratio between phosphocreatine and inorganic phosphate, which has been correlated with subsequent neurodevelopmental deficit, supervenes 12-24 hours later. The reason for this secondary energy failure is unclear, but its delayed onset may provide a window of opportunity for potential cerebroprotective therapies. To render such therapies effective, early diagnosis, before the onset of secondary energy failure, will be of crucial importance. We have shown, for the first time, that <sup>1</sup>H MRS can detect the presence of significant concentrations of cerebral lactate within hours of injury, and that diffusion-weighted MRI provides early localization of areas of damage. I am confident that my research will make a significant contribution in this area and that it has the potential to be of considerable value in paediatric and neonatal neurology.

I also conducted novel research into <sup>13</sup>C MRS, characterizing fat composition in mothers and infants. For this work, I was awarded a prize for best oral presentation at the July 1994 conference (Rotterdam) of the European Society for Paediatric Research.

I have been involved in research since beginning my career in Paediatrics, in a number of different areas, including aspects of Herpes *simplex* encephalitis and a variety of neonatology-related topics. I also developed and implemented a nationwide 8-year follow-up study of the first Irish cohort of hypothyroid children detected by the National Neonatal Screening Programme.

## **Publications and Presentations:**

### **(a) Publications**

(i) Coulter-Smith S, Clarke T, Matthews T, Hanrahan JD, Gorman F, Hogan M  
Transportation of newborn infants *Irish Medical Journal* 1990; 83(4): 152-153

(ii) Hanrahan D, Murphy J, O'Brien N, Gorman W, Kelehan P, Cullinane C,  
Deshpande D, Clarke T, Matthews T, Gillen J Clinico-pathological findings in non-  
immune hydrops foetalis *Irish Medical Journal* 1991; 84(2): 62-63

(iii) Cowan FM, Pennock JM, Hanrahan JD, Manji KP, Edwards AD Early detection  
of cerebral infarction and hypoxic-ischaemic encephalopathy in neonates using  
diffusion-weighted magnetic resonance imaging *Neuropediatrics* 1994; 25: 172-175

(iv) Hanrahan JD, Sargentoni J, Azzopardi D, Manji KP, Cowan FM, Rutherford MA,  
Cox IJ, Bell JD, Bryant DJ, Edwards AD Cerebral metabolism within 18 hours of  
birth asphyxia: a proton magnetic resonance study *Pediatric Research* 1996; 39: 584-  
590

(v) Thomas EL, Hanrahan JD, Ala-Korpela M, Jenkinson G, Azzopardi D, Iles RA,  
Bell JD Non-invasive characterization of neonatal adipose tissue by <sup>13</sup>C magnetic  
resonance spectroscopy *Lipids* 1997; 32: 645-651

(vi) Hanrahan JD, Sargentoni J, Cox IJ, Bell JD, Bryant DJ, Cowan FM, Edwards AD,  
Rutherford MA, Azzopardi D Persistent increases in cerebral lactate concentration  
after birth asphyxia *Paediatric Research* 1998; 44: 304-311

(vii) Hanrahan JD, Cox IJ, Azzopardi D, Cowan FM, Sargentoni J, Bell JD, Bryant  
DJ, Edwards AD Relation between proton magnetic resonance spectroscopy within 18  
hours of birth asphyxia and neurodevelopment at one year of age *Dev Med Child  
Neurol* 1999; 41: 76-82

(viii) Phillips JA, Hanrahan D, Asghar M Glutaric Aciduria Type 1 *Paediatrics Today*  
1999; 7(2): 6

(ix) Law J, Durkin C, Sargent J, Hanrahan D Beyond early language unit provision: linguistic, developmental and behavioral outcomes *Child Language Teaching and Therapy* 1999; 15(2): 93-111

(x) McCusker C, Kennedy P, Anderson J, Hicks E, Hanrahan D Adjustment in children with intractable epilepsy: importance of seizure duration and family factors *Dev Med Child Neurol* 2002; 44: 681-7

(xi) Illingworth MA, Hanrahan JD, Anderson C, Anderson J, Casey M, de Sousa CM, Cross JH, Wright S, Dale RC, Vincent A, Kurian MA Devastating epileptic encephalopathy in school aged children associated with elevated voltage gated potassium channel antibodies (in press) *Dev Med Child Neurol* 2012 (in press)

**(b) *Published Abstracts***

(xi) Hanrahan D, Thomas EL, Bell JD, Azzopardi DA, Barnard ML, Bryant D, Bydder GM, Edwards AD Adipose tissue fat composition measured by <sup>13</sup>-Carbon magnetic resonance spectroscopy *Pediatric Research* 1994; 36(1): 18A

(xii) Hanrahan D, Bryant DB, Azzopardi DA, Cowan F, Schwieso J, Sargentoni J, Cox IJ, Bell JD, Edwards AD Persistence of cerebral lactate as detected by <sup>1</sup>H MRS after birth asphyxia *Neuropediatrics* 1995; 26(6): 340

**(b) *Presentations***

- (i) Clinico-pathological findings in non-immune hydrops foetalis *Irish Perinatal Society*, September 1989; *British Paediatric Association*, Warwick, April 1990
- (ii) Herpes Simplex encephalitis in infants *Irish Paediatric Association*, Dublin, November 1989
- (iii) Congenital hypothyroidism: 8 year follow-up *Irish Paediatric Association*, Dublin, November 1991
- (iv) Outcome of Herpes Simplex encephalitis *British Paediatric Neurology Association*, Bath, January 1992
- (v) Cerebral lactate as detected by proton magnetic resonance spectroscopy: an early marker in hypoxic-ischaemic injury *Society of Magnetic Resonance in Medicine*, San Francisco, August 1994
- (vi) Adipose tissue fat composition measured by <sup>13</sup>-Carbon magnetic resonance spectroscopy *European Society for Paediatric Research*, Rotterdam, July 1994 (Prize for best oral presentation)
- (vii) Cerebral metabolism in the first 18 hours of life in infants suffering birth asphyxia: a proton MRS study *Irish Paediatric Association*, Dublin November 1994; *The Neonatal Society*, London, February 1995.

- (viii) Persistence of cerebral lactate after birth asphyxia as detected by  $^1\text{H}$  MRS (poster presentation) *Society of Magnetic Resonance in Medicine*, Nice, July 1995
- (ix) Persistence of cerebral lactate as detected by  $^1\text{H}$  MRS after birth asphyxia *European Society of Magnetic Resonance in Neuropediatrics*, Oxford, December 1995
- (x) Magnetic resonance techniques in the aftermath of perinatal hypoxic-ischaemic injury (invited presentation) *Royal Society of Medicine*, London, March 1996
- (xi) Prediction of one-year neurodevelopmental outcome by  $^1\text{H}$  magnetic resonance spectroscopy performed within 18 hours of birth asphyxia *British Paediatric Neurology Association*, Oxford, January 1997
- (xii) Magnetic Resonance Spectroscopy in the early assessment of brain injury (invited presentation) *Update in Neonatal Neurology*, London, February 1997
- (xiii) Neonatal sleep staging (invited presentation) *Electrophysiology Technicians Association*, Belfast, October 1998
- (xiv) Acute Neurotoxicity following intrathecal Methotrexate treatment in childhood Acute Lymphoblastic Leukaemia *European Paediatric Neurology Association*, Baden Baden, September 2001
- (xv) Childhood Epilepsy (invited presentation) *Epilepsy Conference – Cross Border Initiative* Newry, November 2001
- (xvi) Iron deficiency as a cause of cerebral venous thrombosis *Irish Neurological Association* Belfast, May 2004
- (xvii) Managing Birth Asphyxia (invited presentation) *Neonatal course* Dublin, 2004

## **Summary**

### *Clinical experience*

In summary, I have 23 years experience in the practice of Paediatrics, of which over 18 years have been in the field of acute Paediatric Neurology. One year was as SHO (including six months in Great Ormond Street), fourteen months as Registrar (in Dublin, Glasgow and London), and one and a half years as Senior Registrar in the Royal London Hospital and Great Ormond Street. I have been appointed as a Consultant in Paediatric Neurology in July 1998 and have been elected as a Fellow of the Royal College of Paediatrics and Child Health. I have also experience in Neurodevelopment and Neurodisability as well as having acquired complementary experience in Neurophysiology. I have obtained my Certificate of Completed Specialist training in Paediatrics, and am included as a Paediatric Neurologist on the Specialist Register of the General Medical Council.

### *Research*

I completed two years as Research Fellow in Neurology-related research, and gained competence during this time in the field of magnetic resonance techniques. I have published a number of papers in peer-reviewed journals and presented frequently at national and international meetings. I have been awarded the MD degree.

### *Teaching*

Since most of my experience has been gained in teaching hospitals, I have frequently been involved in undergraduate and postgraduate teaching, particularly at registrar level. I have conducted numerous tutorials and as Senior Registrar in the Royal London Hospital gave regular lectures in Neurology-related subjects. During this position, I organised the MRCP examination. I have also taught on formal preparatory courses for the MRCPCH and on courses for other health care professionals.

### *Administration and Audit*

I was responsible for the conduct of my research project, which required the multidisciplinary input of a wide range of specialists. As Senior Registrar, I was responsible for organising the on-call rota for the SHOs and registrars. This required a considerable degree of liaison with the junior doctors themselves and with personnel



and management. I have been involved in the auditing process in many of the positions that I have held, the results of some of which have been published. It is increasingly recognised that accurate audit is essential in the provision of effective and efficient services, and its continuation should be encouraged.