

CURRICULUM VITAE

(Summary)

DAVID WILLIAM MATTHEW WEBB

MD, FRCPI, FRCPCH

PERSONAL DETAILS

Name: David William Matthew Webb

Work: Department of Paediatric Neurology,
Our Lady's Hospital for Sick Children
Crumlin, Dublin 12
Department of Paediatrics
National Children's Hospital, Tallaght

Telephone **Work: Tel:** [REDACTED]

Date of birth: [REDACTED]

Nationality: Irish

Memberships: Paediatric Research Society (1991)
Royal College Paediatrics & Child Health (1993)
British Paediatric Neurology Association (1994)
Irish Neurological Association (1996)
European Paediatric Neurology Association (1997)
Irish Paediatric Association (1997)
Irish Society Human Genetics (1997)

ACADEMIC QUALIFICATIONS

Degrees and Diplomas

Medical Degree: Honors:	June 1985	MB, BAO, BCH Paediatrics, Psychiatry Otolaryngology
Diplomas:	June 1987	MRCPI (Dublin) Adult Medicine
	March 1990	MRCP (London) Paediatrics
	Sept 1995	FRCPCH (London)
	October 2001	FRCPI (Dublin)
Post Graduate Degree:	April 1994	MD - UCD Tuberous Sclerosis

APPOINTMENTS

July 85 - June 86

July 86 - June 87

July 87 - Dec 87

Jan 88 - June 88

Aug 88 - Jan 90

Mar 90 - Feb 92

Mar 92 - Dec 92

Jan 93 - July 94

July 94 - June 95

August 1995

October 1997

October 2009

OVERVIEW

IRELAND

Internship

St. Vincent's Hospital, Dublin

Medical S.H.O. (1 year)

St. Vincent's Hospital, Dublin

Paediatric S.H.O.

Our Lady's Hospital for Sick Children, Crumlin, Dublin

Neonatal S.H.O.

Coombe Lying-in-Hospital, Dolphins Barn, Dublin

ENGLAND

Paediatric Rotation (18 months)

Bristol - Cheltenham, Bristol

Paediatric Research Registrar (2 years)

Royal United Hospital, Bath

Paediatric Senior Registrar (1 year Locum)

Royal United Hospital, Bath

Lecturer Paediatrics/

Honorary Senior Registrar - Paediatric Neurology

Southampton General, Hospital, Southampton

CANADA

Fellow in Paediatric Neurology

British Columbia, Children's Hospital, Vancouver B.C.

NORTHERN IRELAND

Consultant in Paediatric Neurology

Royal Belfast Hospital for Sick Children, Belfast

IRELAND

Consultant in Paediatric Neurology/

Lecturer in Paediatrics

Our Lady's Hospital, Crumlin, Dublin

National Children's Hospital, Tallaght

Clinical Senior Lecturer – Paediatrics

Trinity College Dublin

TEACHING RESPONSIBILITIES

Undergraduate Teaching (1997 – 2012)

University of Dublin – Trinity College	3 lectures / term
University College Dublin	1 lecture / term
Royal College of Surgeons	2 tutorials / term

Post Graduate Teaching (1997 – 2012)

Diploma in Child Health
SPR Lectures
Membership Tutorials

ADMINISTRATIVE APPOINTMENTS

Ethics Committee [1998 – 2004]
Chairman of Physicians Group [1999 – 2003]
Chairman Hospital Chart Committee [2003 – 2008]

RESEARCH (1997 – 2012)

- 1 Irish Paediatric Surveillance - Late Febrile Seizures Study (1998 – 1999)
- 2 HRB grant – Inflammatory responses in Neonatal HIE (2001 – 2003)
- 3 Irish Paediatric Surveillance - Opsoclonus Myoclonus Study (2003 -2004)
- 4 Glaxo Grant - Burden of Paediatric Epilepsy Care in Ireland (2003 –2004)
- 5 NCRC – Research grant - Genetic study of Obesity risk in children treated with Valproate – Collaborative Study (2011-2013)
- 6 Value of sleep EEG record in predicting seizure recurrence after a first afebrile seizure in childhood.

AUDIT

Hospital Chart Audit – 2003

Created a new Hospital Chart at OLHSC – (2004).
Audit cycle completed in 2005

Audit of Management of First Seizure – 2008-2012

Tallaght Hospital Audit

SCIENTIFIC PUBLICATIONS

Papers - 1991

- (1) JP Osborne, AE Fryer and **DW Webb**. Epidemiology of tuberous sclerosis.
Annals New York Academy of Sciences, 1991:615:125-127
- (2) **DW Webb**, JP Osborne and AE Fryer. On the incidence of fits and mental retardation in tuberous sclerosis.
Journal of Medical Genetics, 1991:28:395-397
- (3) **DW Webb** and JP Osborne. Non penetrance in tuberous sclerosis.
Journal of Medical Genetics, 1991:28:417-419
- (4) **DW Webb**, JG Thomson and JP Osborne. Cranial magnetic resonance imaging in patients with tuberous sclerosis and normal intellect.
Archives of Disease in Childhood, 1991:66:1375-1377
- (5) RHB de Courcy-Wheeler and **DW Webb**. Contraceptive use in young women: uptake, availability and education.
Irish Journal of Medical Science, 1991:160:311-314
- (6) **DW Webb** and JP Osborne. Management of tuberous sclerosis.
Irish Medical Journal, 1991:84:1-2

Papers - 1992

- (7) **DW Webb**, RD Thomas and JP Osborne. Echocardiography and genetic counseling in tuberous sclerosis.
Journal of Medical Genetics, 1992:29:487-489
- (8) **DW Webb** and JP Osborne. New research in tuberous sclerosis.
British Medical Journal, 1992:304:1647-1648

Papers - 1993

- (9) **DW Webb**, RD Thomas and JP Osborne. Cardiac rhabdomyomas and their association with tuberous sclerosis.
Archives of Disease in Childhood, 1993;68:367- 370
- (10) **DW Webb**, M Super, IC Normand and JP Osborne. Tuberous Sclerosis and Polycystic Kidney Disease.
British Medical Journal, 1993:306:1258-1259

Papers - 1994

- (11) **DW Webb**, J Kabala and JP Osborne. A population study of renal disease in tuberous sclerosis.
British Journal of Urology, 1994:74:151-154
- (12) S Povey, M Burley, J Attwood, F Benham, D Hunt, S Jeremiah, D Franklin, G Gillett, S Malas, P Tippet, J Edwards, D Kwiatkowski, M Super, R Mueller, A Fryer, A Clarke, **DW Webb**, J Osborne. Two loci for Tuberous Sclerosis; one on 9q34 and one on 16p13.
Annals Human Genetics, 1994:58:107-127
- (13) **DW Webb** and CR Kennedy. Seizures in Children.
Hospital Update, 1994:Dec:645-656

SCIENTIFIC PUBLICATIONS

Papers – 1995

- (14) **DW Webb** and JP Osborne. Tuberous sclerosis.
Archives of Disease in Childhood, 1995;72;471-474
- (15) W Perkins, **DW Webb**, R Jackson, J White. Follicular atrophoderma and congenital pseudoarthrosis of the tibia.
Journal of the Royal Society of Medicine, 1995;88;291-292
- (16) B Pizer, H Coakham, **DW Webb**, J Kemshead. Congenital Astrocytoma: an immunohistochemical study.
Journal of Neurosurgery, 1995;83;550-555

Papers - 1996

- (17) **DW Webb**, AE Fryer, JP Osborne. On the morbidity associated with tuberous sclerosis: a population study.
Developmental Medicine and Child Neurology. 1996;38;146-155
- (18) **DW Webb** and K Farrell. The role of clobazam in the management of epilepsy.
Therapeutic Trends. 1996;38;146-155
- (19) **DW Webb**, A Clarke, A Fryer, JP Osborne. The cutaneous features of tuberous sclerosis: a population study.
British Journal of Dermatology 1996;135;1-5

Papers - 1997

- (20) **DW Webb**, B Bjornson, M Sargent, J Hukin, E Thomas. Basal ganglia infarction associated with HHV-6 infection.
Archives of Disease in Childhood. 1997;76;362-364
- (21) B Lawlor, **DW Webb**, A Hill, L Wadsworth. Thrombotic thrombocytopenic purpura: a treatable cause of childhood encephalopathy.
Journal of Pediatrics. 1997;130(2);313-316
- (22) JR Yates, I van Bakel, TS Sepp, SJ Payne, **DW Webb**, NC Nevin, AJ Green. Germline mosaicism in tuberous sclerosis.
Human Molecular Genetics 1997;6:13:2265-2269

Papers - 1998

- (23) **DW Webb**, H Coleman, A Fielder, CRK Kennedy. An audit of paediatric epilepsy care.
Archives of Disease in Childhood 1998;79;145-148
- (24) D Hargraves, **DW Webb**. A review of movement disorders in Herpes simplex encephalitis.
Developmental Medicine and Child Neurology 1998;40;640-642

Papers - 1999

- (25) **DW Webb**, A Manzur, R Jones, K Farrell. A retrospective study of late febrile seizures.
Pediatric Neurology 1999;20;270-273
- (26) **DW Webb**, A Broderick, A Brashear, WB Dobyns. Rapid onset dystonia-parkinsonism in a 14 year old girl.
European Journal of Paediatric Neurology 1999;3;1-3
- (27) AJ Thompson, K Bell, **DW Webb**. Cerebral tuberculomas in Northern Ireland.
European Journal of Paediatric Neurology (1999;3;285-289)

SCIENTIFIC PUBLICATIONS

Papers - 2000

- (28) MC McGovern, M Stewart, PJ Morrison, **DW Webb**, S Hawkins. Early onset of Friedrichs Ataxia in a compound heterozygote. Archives of Disease in Childhood. 2000;83:74-75
- (29) Pittock SJ, Joyce C, O Keane V, Hugle B, Hardiman O, Brett F, Green AJ, Barton DE, King M, **DW Webb**. Rapid-onset Dystonia-Parkinsonism: A clinical and genetic analysis of a new kindred. Neurology 2000; 55:991-995

Papers - 2001

- (29) Ryan M, Yeo S, Maguire A, **DW Webb**, O Marcaigh A, McDermott M, Butler K, O Meara A. Rhinocerebral zygomycosis in childhood acute lymphoblastic leukaemia. European Journal of Pediatrics 2001;160:235-238
- (30) Kamalludin M, McNally P, Breathnach F, O Marcaigh A, **Webb DW**, O Dell E, Scanlon P, Butler K, O Meara A, Potentiation of vincristine toxicity by itraconazole in children with lymphoid malignancies. Acta Paediatr 2001(10):1204-7

Papers – 2003

- (31) Molloy EJ, O Neill AJ, Grantham J, Sheridan-Pereira M, Fitzpatrick JM, **Webb DW**, Watson, RWG. Gender specific alterations in neutrophil apoptosis: the role of estradiol and progesterone. Blood. 2003 Oct 1;102(7):2653-9. Epub 2003 Jun 05.
- (32) Klepper J, De Vivo DC, **Webb DW**, Klinge L, Voit T. Reversible infantile hypoglycorrhachia: possible transient disturbance in glucose transport? Pediatr Neurol. 2003 Oct;29(4):321-5.
- (33) Molloy EJ, O Neill AJ, Grantham J, Sheridan-Pereira M, Fitzpatrick JM, **Webb DW**, Watson, RWG. Labour induces a maternal inflammatory response. Am J Obstet Gynecol. 2004 Feb;190(2):448-455

Papers – 2004

- (34) Molloy EJ, O Neill AJ, Grantham J, Sheridan-Pereira M, Fitzpatrick JM, **Webb DW**, Watson, RWG. Labour promotes neonatal neutrophil survival and lipopolysaccharide responseiveness. Pediatr Res. 2004 Jul;56(1):99-103
- (35) Al Tiah, E Phelan, J Mc Menamin, **Webb DW**. Childhood Stroke following Varicella Infection. Irish Medical Journal. 2004 April 97(4):120-121
- (36) Y Najam, DG Mc Donald, M Keegan, **Webb DW**, JB Mc Menamin. Audit of the management of convulsive status epilepticus in children: the need for a uniform treatment strategy. Irish Medical Journal. 2004 Sept 97(8):246-248

SCIENTIFIC PUBLICATIONS

Papers – 2005/06

- (37) Butler J, Fleming P, **Webb DW**. Congenital insensitivity to pain – report of a case with dental implications. Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endontology. 2006;101:58-62
- (38) O Connell C, **Webb DW**. Management of Childhood Epilepsy: an overview of recent Guidelines. Modern Medicine 2006;36;9:19-24
- (39) Lynch NE, Deiratany S, **Webb DW**, McMenamin JB. PANDAS (Paediatric Autoimmune Neuropsychiatric Disorder Associated with Streptococcal Infection). Irish Medical Journal 2006 May;99(5):155

Papers – 2007

- (40) Allison Brashear¹, William B. Dobyns², Patricia de Carvalho Aguiar^{3,7}, Michel Borg⁸, C. J. M. Frijns⁹, Seema Gollamudi³, Andrew Green¹¹, João Guimaraes¹³, Bret C. Haake⁵, Christine Klein¹⁴, Gurutz Linazasoro¹⁶, Alexander Münchau¹⁵, Deborah Raymond⁴, David Riley⁶, Rachel Saunders-Pullman⁴, Marina A. J. Tijssen¹⁰, **Webb DW**¹², Jacek Zaremba¹⁷, Susan B. Bressman⁴ and Laurie J. Ozelius³
The phenotypic spectrum of rapid onset dystonia-parkinsonism (RDP) and mutations in the ATP1A3 gene. Brain 2007 Mar;130(Pt 3):828-35. Epub 2007
- (41) Molloy EJ, O'Neill AJ, Grantham J, Sheridan-Pereira M, Fitzpatrick JM, **Webb DW**, Watson RWG. Neonatal Encephalopathy is associated with altered perinatal systemic neutrophil apoptosis Am J Perinatol. 2007 Oct;24(9):525-30. Epub 2007 Sep 24
- (42) Molloy EJ, O'Neill AJ, Grantham J, Sheridan-Pereira M, Fitzpatrick JM, **Webb DW**, Watson RWG. Maternal and Neonatal Lipopolysaccharide and Fas responses are altered by sepsis Clin Exp Immunol. 2008 Feb;151(2):244-50. Epub 2007 Dec 6

Papers - 2008

- (43) Tirupathi S, Lynch N, Phelan E, McMenamin J, **Webb DW**
Acute demyelinating events with rhombencephalitis: a high risk subgroup in children. European Journal of Paediatric Neurology 2008 Mar;12(2):137-140
- (44) Leahy TR, **Webb, DW**, Hoey H, Butler KM.
Varicella Zoster virus associated acute aseptic meningitis without exanthm in an immunocompetent 14 year old boy. Ped Inf Dis J 2008;Apr 27(4);362-3
- (45) Tirupathi S, Lynch N, Phelan E, **Webb DW**, McMenamin J
Central hypoventilation syndrome following Haemophilus influenza b meningitis and herpes infection. European Journal of Paediatric Neurology 2008 Nov;39(5):358-60.

SCIENTIFIC PUBLICATIONS

Papers – 2009

- (46) N E Lynch, S A Lynch, J McMenamin, and **Webb DW**
Bannayan-Riley-Ruvalcaba syndrome: a cause of extreme macrocephaly and neurodevelopmental delay
Arch Dis Child 2009;94 553-554
- (47) Tirupathi S, McMenamin JB, **Webb DW**
Analysis of factors influencing admission to intensive care following convulsive status epilepticus in children.
Seizure 2009 Nov;18(9):630-3 Epub 2009 Aug 21

Papers – 2010

- (48) Leen WG, Klepper J, Verbeek MM, Leferink M, Hofste T, van Engelen BG, Wevers RA, Arthur T, Bahi-Buisson N, Ballhausen D, Bekhof J, van Bogaert P, Carrilho I, Chabrol B, Champion MP, Coldwell J, Clayton P, Donner E, Evangeliou A, Ebinger F, Farrell K, Forsyth RJ, de Goede CG, Gross S, Grunewald S, Holthausen H, Jayawant S, Lachlan K, Laugel V, Leppig K, Lim MJ, Mancini G, Marina AD, Martorell L, McMenamin J, Meuwissen ME, Mundy H, Nilsson NO, Panzer A, Poll-The BT, Rauscher C, Rouselle CM, Sandvig I, Scheffner T, Sheridan E, Simpson N, Sykora P, Tomlinson R, Trounce J, **Webb D**, Weschke B, Scheffer H, Willemsen MA.
Glucose Transporter 1 Deficiency Syndrome. The emerging clinical and genetic spectrum of a treatable disorder.
Brain 2010 Mar;133(Pt3):655-70

Papers - 2011

- (49) Byrne S, Kearns J, Carolan R, McMenamin J, Klepper J, **Webb D**
Refractory absence epilepsy associated with GLUT-1 deficiency syndrome.
Epilepsia 2011 May;52(5):1021-4
- (50) Ibrahim LF, Brenner C, McMenamin J, **Webb D**
Frey syndrome in Neurofibromatosis 1
BMJ Case Reports 2011;10:1136

SCIENTIFIC PUBLISHED ABSTRACTS (Selected)

2001 – 2002

Molloy E, O'Neill AJ, Sheridan-Pereira M, Fitzpatrick JM, **Webb DW**, Watson RWG. Maternal and Neonatal Apoptosis at delivery: a mechanism for bacterial susceptibility?
Faseb Journal 2001;15(4);A369.

Molloy E, Sheridan-Pereira M, Fitzpatrick JM, **Webb DW**, Watson RWG.
Perinatal Neutrophil Apoptosis: contribution to neonatal bacterial sepsis and maternal neutrophilia.
Irish Journal of Medical Science 2001 170(1)S2;34.

Klepper J, Willemsen M, Bredahl R, Hertzberg C, **Webb DW**, Papadopoulos S, O'Callaghan F, Goyens P, von Moers A, Hustedt U, Frank U, Voit T.
GLUT1 Deficiency Syndrome – The European Experience.
EJPN 2001;5(5); A70.

Molloy EJ, O'Neill AJ, Grantham J, Sheridan-Pereira M, Fitzpatrick JM, **Webb DW**, Watson, RWG.
Neonatal Neutrophil Responses to Colony Stimulating Factors.
Ped Res 2002 April 51(4)

Molloy EJ, O'Neill AJ, Grantham J, Sheridan-Pereira M, Fitzpatrick JM, **Webb DW**, Watson, RWG.
Modified Cord Blood Neutrophil Survival and Function may explain increased Neonatal susceptibility to infection.
Ped Res 2002 April 51(4)

Molloy EJ, O'Neill AJ, Grantham J, Sheridan-Pereira M, Fitzpatrick JM, **Webb DW**, Watson, RWG.
Neutrophil Apoptosis and Gender: Delayed apoptosis may contribute to female survival advantage in sepsis.
Surgical Infections 2002 3(1):68

SCIENTIFIC PRESENTATIONS (Selected)

2004 – 2005

European Epilepsy Congress Vienna 2004

S Deiratany, Y Najam, D Grant, A Tynan, JB McMenamin, **DW Webb**.

Relationship between seizure type, morbidity, health related quality of life and family impact in children with epilepsy.

Irish Paediatric Association, Dublin 2004

Lynch N, Mc Menamin J, Phelan E, **DW Webb**.

Spinal Cord Injury without radiological abnormality (SCIWORA) in an infant: An important lesson in home safety and emergency medicine.

International Epilepsy Congress, Paris 2005

M Mc Ginn, Y Najan, S Deiratany, D Grant, A Sawyer, R Reeves, J Hughes, J Mc Menamin, **DW Webb**.

The social and economic burden of Paediatric epilepsy in Ireland – a prospective study.

International Epilepsy Congress, Paris 2005

S Deiratany, Y Najan, D Grant, A Sawyer, J Hughes, J Mc Menamin, **DW Webb**.

A prospective study of the impact of a child's epilepsy on their quality of life and on their family.

Joint Irish Welsh Paediatric Meeting, Cardiff 2005

M Mc Ginn, D Mc Donald, M Keegan, J Mc Menamin, **DW Webb**.

An audit of chart maintenance in a Dublin Teaching Hospital.

Joint Irish Welsh Paediatric Meeting, Cardiff 2005

M McGinn, A Awadalla, W Khan K McMahon, E Phelan J McMenamin, **DW Webb**.

Intracranial Haemorrhage Secondary to ITP Complicating Acute Varicella Infection in an Immunocompetent Seven-Week-Old Infant.

Irish Paediatric Association, Dublin Nov 2005

Tirupathi S, Lynch N, **DW Webb**, Phelan E, Butler K, Mc Menamin J.

Central hypoventilation syndrome in Haemophilus Influenza B meningitis – a case of vaccine failure.

Irish Paediatric Association, Dublin, Nov 2005

N Ni Shuibhne, J Mc Menamin, D Coleman, P Oslizlok, **DW Webb**.

Severe complications associated with the use of Synacthen in the management of infantile spasms.

Irish Paediatric Association, Dublin, Nov 2005

Ni Shuibhne, J Mc Menamin, E Hicks, **DW Webb**

A Paediatric Surveillance study of Opsoclonus Myoclonus Syndrome in Ireland (2003 – 2004)

Irish Neurological Association, Dublin, May 2005

M Mc Ginn, Y Najan, S Deiratany, D Grant, A Sawyer, R Reeves, J Hughes, J Mc Menamin,

DW Webb.

The social and economic burden of Paediatric epilepsy in Ireland – a prospective study.

Won Best Platform Presentation at INA meeting 2005

Irish Neurological Association, Dublin, May 2005

S Deiratany, Y Najan, D Grant, A Sawyer, J Hughes, J Mc Menamin, **DW Webb**.

A prospective study of the impact of a child's epilepsy on their quality of life and on their family.

Won Best Poster Presentation at INA meeting 2005

SCIENTIFIC PRESENTATIONS (Selected)

2006 - 2012

Irish Paediatric Association, Dublin 2006

S Tirupathi, **DW Webb**, M Keegan, J McMenamin

An Irish perspective on the impact of vagal nerve stimulation in children with refractory epilepsy.

Irish Paediatric Association, Galway 2007

S Tirupathi, **DW Webb**, J McMenamin

Audit of the Emergency Management of Status Epilepticus (SE).

British Paediatric Neurology Association, Leeds 2008

N E Lynch, S A Lynch, J McMenamin, **DW Webb**

Bannayan-Riley-Ruvalcaba syndrome: a cause of extreme macrocephaly and neurodevelopmental delay

British Paediatric Neurology Association, Leeds 2008

Tirupathi S, McMenamin JB, **Webb DW**

Analysis of factors influencing admission to intensive care following convulsive status epilepticus in children.

Irish Institute of Clinical Neuroscience, Dublin 2008

N K Lynch, S A Lynch, J McMenamin, **DW Webb**

Bannayan-Riley-Ruvalcaba Syndrome: a common cause of extreme macrocephaly and neurodevelopmental delay.

Irish Institute of Clinical Neuroscience, Dublin 2008

S Byrne, J Kearns, J McMenamin, **DW Webb**

Childhood absence seizures and GLUT 1 deficiency.

Won Best Case Presentation IICN, 2008

BPNA, Birmingham 2009

S Tirupathi, **DW Webb**, J Mc Menamin

Ataxia, delayed dentition and hypomyelination syndrome in two siblings

BPNA, Birmingham 2009

S Byrne, J Kearns, J McMenamin, **DW Webb**

Childhood absence seizures and GLUT 1 deficiency.

BPNA, London 2012

Ó Walsh, **DW Webb**, J Conroy, R Murphy, C McDonagh, J Casey, R Regan, S Ennis, SA Lynch.

A new locus for episodic ataxia

BPNA, London 2012

Walsh Ó, Bouldin T, Mc Coy B, Rea D, **Webb DW**.

Posterior Circulation stroke in childhood

PRIZES

1. **Registrars Prize for best short paper - IPA 1999**
D Peake, A O Marcaigh, **DW Webb**
Acute encephalopathy with evolving neurological signs.
2. **Best Presentation Irish Neurologists in Training 1999– Joint 1st prize**
A Broderick, **DW Webb**.
Rapid onset dystonia-parkinsonism in a third – European - family.
3. **Best Platform Presentation INA 2005**
M Mc Ginn, Y Najan, S Deiratany, D Grant, A Sawyer, R Reeves, J Hughes, J Mc Menamin, **DW Webb**
The social and economic burden of Paediatric epilepsy in Ireland – a prospective study.
4. **Best Poster Presentation- INA 2005**
S Deiratany, Y Najan, D Grant, A Sawyer, J Hughes, J Mc Menamin, **DW Webb**.
A prospective study of the impact of a child's epilepsy on their quality of life and on their family.
5. **Best Case Presentation - IICN, 2008**
S Byrne, J Kearns, J McMenamin, **DW Webb**
Childhood absence seizures and GLUT 1 deficiency.