

MANAGING FIRST-TIME SEIZURES AND EPILEPSY IN CHILDREN

A first seizure is a relatively common problem in paediatric general practice.

SALLY ACKERMANN, MB ChB, DCH, FCPaed

Senior Registrar in Paediatric Neurology, School of Child and Adolescent Health, University of Cape Town and Red Cross Children's Hospital, Cape Town
Sally Ackermann is a senior registrar in paediatric neurology. She has an interest in the epidemiology of children with epilepsy.

RONALD VAN TOORN, MB ChB, MRCP, FCPaed

Senior Specialist in Paediatric Neurology, University of Stellenbosch and Tygerberg Children's Hospital, Cape Town
Ronald van Toorn has worked in the paediatric neurology department at Tygerberg Children's Hospital since 2003. His field of interest includes epilepsy, especially its management in resource-poor countries.

Correspondence to: Sally Ackermann (sally.ackermann@yahoo.com)

References

1. Seneviratne U. Management of the first seizure: an evidence-based approach. *Postgrad Med J* 2009;85:667-673.
2. Wiebe S, Tellez-Zenteno J, Shapiro M. An evidence-based approach to the first seizure. *Epilepsia* 2008;49(Supp.1):50-57.
3. Christianson AL, Zwane ME, Manga P, Rosen E, Venter A, Kromberg JGR. Epilepsy in rural South African children - prevalence, associated disability and management. *S Afr Med J* 2000;90(3):262-266.
4. Smith D, Defalla BA, Chadwick DW. The misdiagnosis of epilepsy and the management of refractory epilepsy in a specialist clinic. *Q J Med* 1999;92:15-23.
5. Hirtz D, Berg A, Bettis D, et al. Practice parameter: Treatment of the child with a first unprovoked seizure. *Neurology* 2000;55:616-623.
6. Guerrini R. Epilepsy in children. *Lancet* 2006;367:499-524.
7. Hirtz D, Ashwal S, Berg A, Bettis D, Camfield C, Camfield P. Practice parameter: Evaluating a first nonfebrile seizure in children. *Neurology* 2000;55:616-623.
8. Berg AT, et al. Revised terminology and concepts for organization of seizures and epilepsies: Report of the ILAE Commission on Classification and Terminology, 2005-2009. *Epilepsia: Early View*, date February 2010.
9. Fenichel GM. *Clinical Pediatric Neurology: A Signs and Symptoms Approach*. 5th ed. Philadelphia: Elsevier Saunders, 2005.
10. Raspall-Chaure M, Neville BG, Scott RC. The medical management of the epilepsies in children: conceptual and practical considerations. *Lancet Neurol* 2008;7:57-69.
11. Ramos-Lizana J, Aguirre-Rodriguez J, Aguilera-Lopez P, Cassinello-Garcia E. Recurrence risk after withdrawal of antiepileptic drugs in children with epilepsy: A prospective study. *Eur J Paediatr Neurol* 2010;14:116-124.
12. Raymond AA. How to stop antiepileptic drugs. *Neurology Asia* 2007;12(Supp.1):27-29.

PAEDIATRIC STROKE

In spite of better diagnosis of paediatric stroke, its management remains challenging.

ALVIN P NDONDO, MB ChB, FCPaed (SA), Cert Paediatric Neurology (SA)

Consultant Paediatric Neurologist, Department of Paediatric Neurology, School of Child and Adolescent Health, Red Cross War Memorial Children's Hospital, Cape Town

Alvin Nondo is currently working as a paediatric neurologist in the Paediatrics Department at the Red Cross Children's Hospital in a senior specialist capacity. He is affiliated with the University of Cape Town as a lecturer and involved in a number of multidisciplinary clinics, including the neurocutaneous disorders and neuromuscular diseases clinics. He has a special interest in paediatric stroke (especially cerebral arteriopathies) and neurometabolic diseases.

RAJESHREE GOVENDER, MB ChB, DCH (SA, FCPaed (SA), MPhil, Cert Paediatric Neurology (SA)

Consultant Paediatric Neurologist, Inkosi Albert Luthuli Central Hospital, Nelson R Mandela School of Medicine, Durban

Rajeshree Govender is a consultant paediatric neurologist working at Inkosi Albert Luthuli Hospital in Durban and honorary lecturer in the Department of Mother and Child Health at the Nelson R Mandela School of Medicine. Special interests are neonatal neurology and CNS infections.

Correspondence to: Alvin Nondo (ndap@mweb.co.za)

References

1. Schoenberg B, Mellinger J, Schoenberg D. Cerebrovascular disease in infants and children: A study of incidence, clinical features, and survival. *Neurology* 1978;28:763-768.
2. Giroud M, Lemesle M, Houyon J, Nivelon J, Milan C, Dumas R. Cerebrovascular disease in children under 16 years of age in the city of Dijon, France: A study of the incidence and clinical features from 1985 to 1993. *J Clin Epidemiol* 1995;48:1343-1348.
3. deVeber G. Stroke and the child's brain: an overview of epidemiology, syndromes and risk factors. *Curr Opin Neurol* 2002;15(2):133-138.
4. Nelson KB, Lynch JK. Stroke in newborn infants. *Lancet Neurol* 2004;3:150-158.
5. Heller C, Heinecke A, Junker R, et al. Childhood Stroke Study Group. Cerebral venous thrombosis in children: a multifactorial origin. *Circulation* 2003;108:1362-1367.
6. Shellhaas RA. Mimics of childhood stroke: characteristics of a prospective cohort. *Pediatrics* 2006;118:704-709.
7. deVeber G. Cerebrovascular disease. Swaiman KF, Ashwal S, Ferreiro DM, eds. *Pediatric Neurology, Principles and Practice*, 4th ed, vol.2. St Louis: CV Mosby, 2006.
8. Raju TN, Nelson KB, Ferriero D, Lynch JK; NICHD-NINDS Perinatal Stroke Workshop Participants. Ischemic perinatal stroke: summary of a workshop sponsored by the National Institute of Child Health and Human Development and the National Institute of Neurological Disorders and Stroke. *Pediatrics* 2007;120:609-616.
9. Kirton A, deVeber G. Advances in perinatal ischemic stroke. *Pediatr Neurol* 2009;40:205-214.
10. deVeber G; Canadian Paediatric Ischemic Stroke Study Group. Canadian Paediatric Ischemic Stroke Registry: Analysis of children with arterial ischemic stroke. *Ann Neurol* 2000;48:514.
11. Golomb MR, MacGregor DL, Domi T, et al. Presumed pre- or perinatal arterial ischemic stroke: risk factors and outcomes. *Ann Neurol* 2001;50:163-168.
12. Mercuri E, Cowan F. Cerebral infarction in the newborn infant: review of the literature and personal experience. *Europ J Paediatr Neurol* 1999;3:255-263.
13. Ferriero DM. Neonatal brain injury. *N Engl J Med* 2004;351:1985-1995.
14. Yager JY, Armstrong EA, Jaharus C, Saucier DM, Wirrell EC. Preventing hyperthermia decreases brain damage following neonatal hypoxic - ischemic seizures. *Brain Res* 2004;1011:48-57.
15. Roach SE, Golomb MR, Adams R, et al. Management of stroke in infants and children: a scientific statement from a Special Writing Group of the American Heart Association Stroke Council and the Council on Cardiovascular Disease in the Young. *Stroke*. 2008;39(9):2644-2691.
16. Monagle P, Chan A, Massicotte P, Chalmers E, Michelson AD. Antithrombotic therapy in children: The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. *Chest* 2004;126(3 Suppl):645S-87S.
17. Mllick A, Ganesan V. Arterial ischaemic stroke in children - recent advances. *Indian J Pediatr* 2008;75(11):1149-1157.

NEUROLOGICAL COMPLICATIONS OF HIV/AIDS IN CHILDHOOD

The neurological complications of human immunodeficiency virus type 1 (HIV-1)/acquired immunodeficiency disease (AIDS) contribute significantly to the morbidity of HIV infection in the paediatric age group.

KIRSTEN A M DONALD, MB ChB, MRCPCH (UK), FCPaed (SA), MPhil (Paed Neuro), Cert Paed Neuro (SA)
Senior Specialist and Head, Division Developmental Paediatrics, Red Cross War Memorial Children's Hospital, University of Cape Town

KATHLEEN WALKER, MB ChB

Medical Officer, Division Paediatric Neurology and Kidzpositive HIV Clinic, Red Cross War Memorial Children's Hospital and Groote Schuur Hospital, University of Cape Town

GILL RIORDAN, MB ChB, FCPaed (SA), MPhil (Paed Neuro)

Senior Specialist, Division of Paediatric Neurology, Red Cross War Memorial Children's Hospital, University of Cape Town

RAJESHREE GOVENDER, MB ChB, FCPaed (SA), MPhil (Paed Neuro), Cert Paed Neuro (SA)

Senior Specialist, Division of Paediatric Neurology, Inkosi Albert Luthuli Central Hospital, University of KwaZulu-Natal

JO WILMSHURST, MD

Paediatric Neurologist, Red Cross War Memorial Children's Hospital, Cape Town

Correspondence to: K Donald (kirsty.donald@uct.ac.za)

References

1. Van Rie A, Harrington P, Dow A, Robertson K. Neurologic and neurodevelopmental manifestations of pediatric HIV/AIDS: A global perspective. *Eur J Paediatr Neurol* 2007;11(1):1-9.
2. Tardieu M, Le Chenadec J, Persoz A, Meyer L, Blanche S, Mayaux M. HIV-1-related encephalopathy in infants compared with children and adults. French Pediatric HIV Infection Study and the Seroco Group. *Neurology* 2000;54(5):1089-1095.
3. Englund J, Baker C, Raskino C, et al. Clinical and laboratory characteristics of a large cohort of symptomatic, human immunodeficiency virus-infected infants and children. AIDS Clinical Trials Group Protocol 152 Study Team. *Pediatr Infect Dis J* 1996;15(11):1025-1036.
4. Patel K, Ming X, Williams P, et al. Impact of HAART and CNS-penetrating antiretroviral regimens on HIV encephalopathy among perinatally infected children and adolescents. *AIDS* 2009;23(14):1893-1894,1901.
5. Giuliano IC, De Freitas S, De Souza M, Caramelli B. Subclincic atherosclerosis and cardiovascular risk factors in HIV-infected children: Peri Study. *Coronary Artery Disease* 2008;19(3):167-172.
6. Floeter M, Civitello L, Everett C, Dambrosia J, Luciano C. Peripheral neuropathy in children with HIV infection. *Neurology* 1997;49(1):207-212.
7. Wilmshurst J, Burgess J, Hartley P, Eley B. Specific neurologic complications of human immunodeficiency virus type 1 (HIV-1) infection in children. *J Child Neurol* 2006;21(9):788-794.
8. Civitello L. Neurologic problems. In: Zeichner S, Read J, eds. *Handbook of Pediatric HIV Care*. Cambridge: Cambridge University Press, 2006:503-518.
9. Liedtke M, Lockhart S, Rathbun R. Anticonvulsant and antiretroviral interactions. *Ann Pharmacother* 2004;38(3):482-489.
10. Madhi S, Madhi A, Petersen K, Khoosal M, Klugman K. Impact of human immunodeficiency virus type 1 infection on the epidemiology and outcome of bacterial meningitis in South African children. *Int J Infect Dis* 2001;5(3):119-125.
11. Holland N, Power C, Mathews V, Glass J, Forman M, McArthur J. Cytomegalovirus encephalitis in acquired immunodeficiency syndrome (AIDS). *Neurology* 1994;44(3 Pt 1):507-514.
12. Kovacs A, Schluchter M, Easley K, et al. Cytomegalovirus infection and HIV-1 disease progression in infants born to HIV-1-infected women. *N Engl J Med* 1999;341(2):77-84.
13. Puthanakit T, Oberdorfer P, Akarathum N, Wannarit P, Sirisanthana T, Sirisanthana V. Immune reconstitution syndrome after highly active antiretroviral therapy in human immunodeficiency virus-infected Thai children. *Pediatr Infect Dis J* 2006;25(1):53-58.
14. Little R. Neoplastic disease in pediatric HIV infection. In: Zeichner S, Read J, eds. *Handbook of Pediatric HIV Care*. Cambridge: Cambridge University Press, 2006:637-649.
15. Mellins C, Brackis-Cott E, Dolezal C, Abrams E. Psychiatric disorders in youth with perinatally acquired human immunodeficiency virus infection. *Pediatr Infect Dis J* 2006;25(5):432-437.
16. Nozyce M, Lee S, Wiznia A, et al. A behavioral and cognitive profile of clinically stable HIV-infected children. *Pediatrics* 2006;117(3):763-770.

For further references, please contact the corresponding author.

COGNITIVE AND BEHAVIOURAL OUTCOMES AFTER TRAUMATIC BRAIN INJURY IN CHILDREN

Traumatic brain injury remains a leading cause of mortality and morbidity in children and adolescents.

LEIGH SCHRIEFF, MA (Psychological Research)

Lecturer, ACSENT Laboratory, Department of Psychology, University of Cape Town

Leigh Schrieff is a PhD candidate and lecturer in the University of Cape Town's Department of Psychology. Her teaching and research focus is mainly on neuropsychology, with a special interest in paediatric/developmental neuropsychology and cognitive rehabilitation.

KIRSTY DONALD, MB ChB, MRCPCH (UK), FCPaed (SA), MPhil (Paed Neurology), Cert Paed Neurology (SA), DCH (SA)

Senior Specialist and Head, Division Developmental Paediatrics, Red Cross War Memorial Children's Hospital and University of Cape Town

Kirsty Donald has worked in the Division of Developmental Paediatrics at Red Cross Children's Hospital since 2009. Her special interests include the neurological and developmental sequelae of HIV in children as well as managing a range of developmental disabilities in the South African context.

KEVIN THOMAS, PhD

Senior Lecturer, ACSENT Laboratory, Department of Psychology, University of Cape Town

Kevin Thomas is a senior lecturer in the University of Cape Town's Department of Psychology. He teaches and does research on topics in neuropsychology, and serves on the executive committee of the South African Clinical Neuropsychological Association.

Correspondence to: L Schrieff (l.e.schrieff@gmail.com)

References

1. Babikian T, Asarnow R. Neurocognitive outcomes and recovery after pediatric TBI: Meta-analytic review of the literature. *Neuropsychology* 2009;23(3):283-296. <http://www.ncbi.nlm.nih.gov/pubmed/19413443> (accessed 21 March 2011).
2. Yeates KO, Anderson V. Childhood traumatic brain injury, executive functions, and social outcomes: Toward an integrative model for research and clinical practice. In: Anderson V, Jacobs R, Anderson P, eds. *Executive Functions and the Frontal Lobes: A Lifespan Perspective*. Philadelphia, PA, USA: Taylor & Francis, 2008:243-267.
3. Cattalani R, Lombardi F, Brianti R, et al. Traumatic brain injury in childhood: intellectual, behavioural and social outcome into adulthood. *Brain Injury* 1998;12(4):283-296. <http://www.ncbi.nlm.nih.gov/pubmed/9562911> (accessed 21 March 2011).
4. Anderson V, Northam E, Hendy J, et al. *Developmental Neuropsychology: A Clinical Approach*. UK: Psychology Press, 2002.
5. Arroyos-Jurado E, Paulsen JS, Ehly S, et al. Traumatic brain injury in children and adolescents: academic and intellectual outcomes following injury. *Exceptionality* 2006;14(3):125-140. http://www.howardlas.com/Head_Injury_and_Learning_Abilities.pdf (accessed 21 March 2011).
6. Hawley CA. Behaviour and school performance after brain injury. *Brain Injury* 2004;18(7):645-659. <http://www.ncbi.nlm.nih.gov/pubmed/15204326> (accessed 21 March 2011).
7. Kinsella G, Ong B, Murtagh D, Prior M, Sawyer M. The role of the family for behavioural outcome in children and adolescents following traumatic brain injury. *Journal of Consulting and Clinical Psychology* 1999;67(1):116-123. <http://www.ncbi.nlm.nih.gov/pubmed/10028215> (accessed 21 March 2011).
8. Dooley JJ, Anderson V, Hemphill SA, et al. Aggression after pediatric traumatic brain injury: A theoretical approach. *Brain Injury* 2008;22(11):836-846. <http://www.ncbi.nlm.nih.gov/pubmed/18850342> (accessed 21 March 2011).
9. Hooper SR, Alexander J, Moore D, et al. Caregiver reports of common symptoms in children following a traumatic brain injury. *NeuroRehabilitation*, 2004;19:175-189. <http://www.ncbi.nlm.nih.gov/pubmed/15502252> (accessed 21 March 2011).
10. Mayfield J, Homack S. Behavioural considerations associated with traumatic brain injury. *Preventing School Failure* 2005;49(4):17-22. <http://www.brainline.org/content/2008/07/behavioral-considerations-associated-traumatic-brain-injury.html> (accessed 21 March 2011).
11. Ylvisaker M, Feeney TJ, Szekeres SF. Socio-environmental approach to communication and behaviour. In: Ylvisaker M, ed. *Traumatic Brain Injury Rehabilitation: Children and Adolescents*. Boston: Butterworth-Heinemann, 1998:271-302.
12. Prigatano GP, Gray JA. Parental concerns and distress after paediatric traumatic brain injury: A qualitative study. *Brain Injury* 2007;21(7):721-729. <http://www.ncbi.nlm.nih.gov/pubmed/17653946> (accessed 21 March 2011).
13. Hawley CA, Ward AB, Magnay A, et al. Parental stress and burden following traumatic brain injury amongst children and adolescents. *Brain Injury* 2003;17:1-23. <http://www.ncbi.nlm.nih.gov/pubmed/12519644> (accessed 21 March 2011).
14. Figaji AA. Targeted treatment of severe head injury. *CME* 2010;28(3):104-107. <http://ajol.info/index.php/cme/article/viewFile/55242/43709> (accessed 21 March 2011).
15. Wassenberg R, Max JE, Koele SL, et al. Classifying psychiatric disorders after traumatic brain injury and orthopaedic injury in children: adequacy of K-SADS versus CBCL. *Brain Injury* 2004;18(4):377-390. <http://www.ncbi.nlm.nih.gov/pubmed/14742151> (accessed 21 March 2011).

MORE ABOUT

When to consider an inborn error of metabolism: an approach to paediatric neurometabolic disorders

G T RIORDAN, MB ChB, FCPaed (SA), MMed (Paed Neuro)

Senior Specialist, Division of Paediatric Neurology, Red Cross War Memorial Children's Hospital, Cape Town

I SMUTS, BSc, MB ChB

Professor and Head of Paediatric Neurology, Steve Biko Academic Hospital, University of Pretoria

Correspondence to: Gill Riordan (gillian.riordan@uct.ac.za)

References

1. Bernstein RE, Op't Hof J, Hitzeroth HW. Neonatal screening for congenital hypothyroidism. A decade's review, including South Africa. *S Afr Med J* 1988;73(6):339-343.
2. Henderson H, Leisegang F, Brown R, Eley B. The clinical and molecular spectrum of galactosemia in patients from the Cape Town region of South Africa. *BMC Pediatr* 2002;2:7.
3. Van der Watt G, Owen EP, Berman P, et al. Glutaric aciduria type 1 in South Africa-high incidence of glutaryl-CoA dehydrogenase deficiency in black South Africans. *Mol Genet Metab* 2010;101(2-3):178-182.
4. Smuts I, Louw R, Klopper B, Mienie LJ, Van der Westhuizen FH. An overview of South African patients with mitochondrial disorders. *J Inher Metab Dis* 2010 Feb DOI: 10.1007/s10545-009-9031-8.
5. Saudubray JM, Nassogne MC, De Lonlay P, Touati G. Clinical approach to inherited metabolic disorders in neonates: an overview. *Semin Neonatol* 2002;7:3-15.
6. Saudubray JM, Sedel F, Walter JH. Clinical approach to treatable inborn metabolic diseases: An introduction. *J Inher Metab Dis* 2006;29(2-3):261-274.

MORE ABOUT

Neurofibromatosis

VERUSCHKA RAMANJAM, MB ChB, DCH (SA), FCPaed (SA), Cert Dev Paed (SA)

Principal Specialist, Department of Paediatrics, 2 Military Hospital, Cape Town, and Honorary Lecturer and Developmental Paediatrician, Red Cross War Memorial Children's Hospital and University of Cape Town

ALVIN NDONDO, MB ChB, FCPaed (SA), Cert Paed Neuro (SA)

Consultant Paediatric Neurologist, Red Cross War Memorial Children's Hospital, and Senior Lecturer, University of Cape Town

Correspondence to: V Ramanjam (Verushka.Ramanjam@uct.ac.za)

Further reading

- Huson SM. What level of care for the neurofibromatosis? *Lancet* 1999;353:1114-1116.
- North K, Gutman DH. Neurofibromatosis Type 1 in Childhood: International Review of Childhood Neurology Series. London: Mac Keith Press, 1997.
- North K, Hyman S, Barton B. Cognitive deficits in neurofibromatosis 1. *J Child Neurol* 2002;17(8):605-611.
- Ramanjam V, Adnams C, Nondo A, et al. The clinical phenotype of South African children with neurofibromatosis type 1. *J Child Neurol* 2006;21(1):63-70.
- Riccardi VM. Neurofibromatosis: Phenotype, Natural History and Pathogenesis. 2nd ed. Baltimore: John Hopkins University Press, 1992a:81-85.

MORE ABOUT

A medical approach to the care of children with Duchenne muscular dystrophy

JO WILMSHURST, MD

Paediatric Neurologist, Neuromuscular Clinic, Red Cross War Memorial Children's Hospital, Cape Town

Correspondence to: J M Wilmshurst (Jo.wilmshurst@uct.ac.za)

References

1. Bushby K, Finkel R, Birnkrant D, et al. for the DMD Care Considerations Working Group. Diagnosis and management of Duchenne muscular dystrophy, part 1: diagnosis, and pharmacological and psychosocial management. *Lancet Neurol* 2010;9:77-93.
2. Bushby K, Finkel R, Birnkrant DJ, et al. for the DMD Care Considerations Working Group. Diagnosis and management of Duchenne muscular dystrophy, part 2: implementation of multidisciplinary care. *Lancet Neurol* 2010;9(2):177-189.

MORE ABOUT

Post-streptococcal neuropsychiatric movement disorders or Sydenham's chorea spectrum disorder: an update on management

KATHLEEN G WALKER, MB ChB, DCH

Medical Officer, Division Paediatric Neurology, Paediatric Cardiology and Kidzpositive HIV Clinic, Red Cross War Memorial Children's Hospital and Groote Schuur Hospital, University of Cape Town

JO M WILMSHURST, MD

Paediatric Neurologist, Red Cross War Memorial Children's Hospital, Cape Town

Correspondence to: Kathleen Walker (buley@iafrica.com)

References

1. Al-Eissa A. Sydenham's chorea: a new look at an old disease. *Br J Clin Pract* 1993;47:14-16.
2. Garvey MA, Swedo SE. Sydenham's chorea clinical and therapeutic update. *Adv Exp Med Biol* 1997;418:115-120.
3. Carapetis JR, Currie BJ. Rheumatic chorea in northern Australia: a clinical and epidemiological study. *Arch Dis Child* 1999;80:355-358.
4. Husby G, Van der Rinj J, Zabriskie JB, et al. Antibodies reacting with cytoplasm of subthalamic and caudate nuclei neurons in chorea and acute rheumatic fever. *J Exp Med* 1976;114:1094-1110.
5. Aron AM, Freeman JM, Carters. The natural history of Sydenham's chorea. *Am J Med* 1965;38:83-93.
6. Nausieda PA, Beliauskas LA, Bacon LD, et al. Chronic dopaminergic sensitivity after Sydenham's chorea. *Neurology* 1983;33:750-754.
7. Gowers WR. On paralytic chorea. *Br Med J* 1881;1:636-637.
8. Edgar TS. Oral pharmacotherapy of childhood movement disorders. *J Child Neurol* 2003;18:840-849.
9. Garvey MA, Asbahr FR. Sydenham's Chorea: Epilepsy and Movement Disorders. Cambridge, UK: Cambridge University Press, 2002.
10. Swedo SE. Sydenham's chorea: A model for childhood autoimmune neuropsychiatric disorders. *JAMA* 1994;272:1788-1791.
11. Carapetis JR, McDonald M, Wilson N. Acute rheumatic fever. *Lancet* 2005;366:155-168.
12. Walker KG, Lawrenson J, Wilmshurst JM. Neuropsychiatric movement disorders following streptococcal infection. *Dev Med Child Neurol* 2005;47:771-775.
13. Cilliers AM. Rheumatic fever and its management. *BMJ* 2006;333:1153-1156.
14. Walker KG, Wilmshurst JM. An update on the treatment of Sydenham's chorea: the evidence for established and evolving interventions. *Ther Adv Neurol Dis* 2010;3(5):301-309.

MORE ABOUT

Approach to a single granuloma on CT scan

REGAN SOLOMONS, MB ChB, DCH (SA), MMed (Paed), Cert Paed Neur (SA)

Consultant Paediatric Neurologist, Tygerberg Children's Hospital, Department of Paediatrics and Child Health, Faculty of Health Sciences, Stellenbosch University

JOHAN SCHOEMAN, MB ChB, MMed (Paed), FCPaed (SA), MD

Professor and Head, Paediatric Neurology, Tygerberg Children's Hospital, Department of Paediatrics and Child Health, Faculty of Health Sciences, Stellenbosch University

RONALD VAN TOORN, MB ChB, MRCPCH (UK), FCPaed (SA), Cert Paed Neur (SA)

Consultant Paediatric Neurologist, Tygerberg Children's Hospital, Department of Paediatrics and Child Health, Faculty of Health Sciences, Stellenbosch University

Correspondence to: R Solomons (regan@sun.ac.za)

References

1. Abba K, Ramaratnam S, Ranganathan LN. Anthelmintics for people with neurocysticercosis. *Cochrane Database Syst Rev* 2010;17(3):CD000215.
2. Ravenscroft A, Schoeman JF, Donald PR. Tuberculous granulomas in childhood tuberculous meningitis. *J Trop Pediatr* 2001;47(1):5-12.
3. Rajadhaksha S, Shah KN, Kanhere S, et al. Does treatment change the outcome of seizures and computerized tomographic lesions in intracranial granulomas? *J Trop Pediatr* 1999;45(3):161-165.
4. Sotello J, Del Brutto OH. Review of neurocysticercosis. *Neurosurg Focus* 2002;12:1-7.
5. Garcia H, Evans CAW, Nash TE, et al. Current consensus guidelines treatment of neurocysticercosis. *Clin Microbiol Rev* 2002;15(4):747-756.

MORE ABOUT

Approach to headaches in children

REGAN SOLOMONS, MB ChB, DCH (SA), MMed (Paed), Cert Paed Neur (SA)

Consultant Paediatric Neurologist, Tygerberg Children's Hospital, Department of Paediatrics and Child Health, Faculty of Health Sciences, Stellenbosch University

JOHAN SCHOEMAN, MB ChB, MMed (Paed), FCPaed (SA), MD

Professor and Head, Paediatric Neurology, Tygerberg Children's Hospital, Department of Paediatrics and Child Health, Faculty of Health Sciences, Stellenbosch University

RONALD VAN TOORN, MB ChB, MRCPCH (UK), FCPaed (SA), Cert Paed Neur (SA)

Consultant Paediatric Neurologist, Tygerberg Children's Hospital, Department of Paediatrics and Child Health, Faculty of Health Sciences, Stellenbosch University

Correspondence to: R Solomons (regan@sun.ac.za)

References

1. Brna PM, Dooley JM. Headaches in the pediatric population. *Semin Pediatr Neurol* 2006;13:222-230.
2. Miltenburg D, Louw DF, Sutherland GR. Epidemiology of childhood brain tumors. *Can J Neurol Sci* 1996;23:118-122.
3. Stafstrom CE, Goldenholz SR, Dulli DA. Serial headache drawings by children with migraine: correlation with clinical headache status. *J Child Neurol* 2005;20: 809-813.
4. Stafstrom CE, Rostasy K, Minster A. The usefulness of children's drawings in the diagnosis of headache. *Pediatrics* 2002;109:460-472.
5. Wojaczynska-Stanek K, Koprowski R, Wrobel Z, Gola M. Headache in children's drawings. *J Child Neurol* 2008;23:184-191.
5. Millichap JG, Yee MM. The diet factor in pediatric and adolescent migraine. *Pediatr Neurol* 2003;28:9-15.
6. Hershey AD. Current approaches to the diagnosis and management of paediatric migraine. *Lancet Neurol* 2010;9:190-204.
7. Hamalainen ML, Hoppu K, Valkeila E, et al. Ibuprofen or acetaminophen for the acute treatment of migraine in children. *Neurology* 1997;48:103-107.
8. Lewis DW, Kellstein D, Dahl G, et al. Children's ibuprofen suspension for the acute treatment of pediatric migraine. *Headache* 2002;42:780-786.
9. Ahonen K, Hamalainen ML, Rantala H, et al. Nasal sumatriptan is effective in treatment of migraine attacks in children: a randomized trial. *Neurology* 2004;62:883-887.
10. Ahonen K, Hamalainen ML, Eerola M, et al. A randomized trial of rizatriptan in migraine attacks in children. *Neurology* 2006;67:1135-1140.
11. Symon DNK. Twelve cases of analgesic headache. *Arch Dis Child* 1998;78:555-556.