

**CURICULUM VITAE**

**ANDREW DUNCAN KAY**

## **Contact**

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## **Qualifications and Accreditations**

Bachelor of Science (BSc)

Bachelor of Medicine and Surgery (MBBS) (1991)  
Fellowship of the Royal College of Surgeons (England): FRCS (1995)  
Intercollegiate Specialist Fellowship in Neurosurgery-FRCS (Neuro.Surg.) (2002)  
Doctor of Medicine-MD (2003)

GMC registration number: 3276327  
Premium Medical Protection number: 2428023  
CRB Disclosure number: 001076278509  
Certificate of Completion of Specialist Training in Neurosurgery (2004)  
Appointed Consultant Neurosurgeon University Hospital Birmingham 2003.

Special interests include skull base surgery, Acoustic neuroma, meningioma, neuroncology, rare tumours, complex spine including spinal dysraphism and degenerative disorders, Chiari malformation, Syringomyelia, Hydrocephalus, Neuroendoscopy and Neurotrauma.

### **Presentations**

1. The national audit of the Hakim programmable valve-preliminary results. Presented to the Royal London Hospital meeting of the Society of British Neurological Surgeons in 1993.
2. Update on the national audit of the Hakim programmable valve. Presented to the Dublin meeting of the Society of British Neurological Surgeons in 1995.
3. An evaluation of the Hakim programmable valve in patients with complex hydrocephalus. Presented to the French Neurosurgical Society meeting in Neuchatel, Switzerland in 1997.
4. An evaluation of spinal cord stimulation for the treatment of chronic pain. Presented to the Sheffield meeting of the Society of British Neurological Surgeons in 1998.
5. Dundee's experience of the neuronavigating microscope. Presented to the Dundee meeting of the British Functional and Stereotactic Society in 1998.
6. Why are adults with head injury still in hospital after 48 hours after injury? Presented to the Southampton meeting of the Society of British Neurological Surgeons in 2000.
7. Cerebrospinal fluid apoE after acute brain injury. Presented to the Sheffield meeting of the British Neurosurgical Research Group in 2000. (Prize paper).
8. Alzheimer's disease related proteins in the cerebrospinal fluid after acute brain injury. Presented to the Clinical Biochemistry Society Meeting at the Institute of Neurology, Queens Square in 2001.
9. Decreased concentration of apolipoprotein E in the cerebrospinal fluid after acute brain injury. Presented to the British Neuropathological Society Meeting at the Institute of Child Health in 2002.
10. Cerebrospinal fluid apolipoprotein E after human acute brain injury-evidence for a role in cholesterol recycling and amyloid-b interactions. Presented to the Cambridge meeting of the British Neurosurgical Research Group in 2003.
11. Temporal alterations in cerebrospinal fluid apoE and amyloid-b after acute brain injury. Presented to the 3<sup>rd</sup> Biochemical Markers for Brain Damage meeting in Lund, Sweden in 2003.
12. Remodelling of cerebrospinal fluid lipoproteins after human acute brain injury. Presented to the 26<sup>th</sup> meeting of the European Lipoprotein Conference in Tutzing, Germany in 2003.

### **Published Abstracts**

1. **Kay AD**, Fisher AJ, O'Kane C, Richards HK, Pickard JD. A clinical audit of the Hakim programmable valve in patients with complex hydrocephalus. **Br.J.Neurosurg.**2000.Dec.;14.(6.):535-42. 14:535-542.
2. **Kay AD**, McIntyre MD, Macrae WA, Varma TR. Spinal cord stimulation—a long-term evaluation in patients with chronic pain. **Br.J.Neurosurg.** 2001.Aug.;15.(4.):335-40. 15:335-341.
3. **Kay A**, Teasdale G. Head injury in the United Kingdom. **World Journal of Surgery.** 2001.Sept.;25.(9.):1210-20. 25:1210-1220.
4. **Kay AD**, Thornhill S, Teasdale GM. The head injured adult—who cares? **Br.J.Neurosurg.**2001.Dec.;15.(6.):508-10. 15:508-510.
5. Reeder BJ, Sharpe MA, **Kay AD**, Kerr M, Kevin Moore, Wilson MT. Toxicity of myoglobin and Hemoglobin oxidative stress in patients with rhabdomyolysis and subarachnoid haemorrhage. **Biochemical Society Transactions.** 2002;30(4):745-8.
6. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Decreased concentration of apolipoproteinE in the cerebrospinal fluid after acute brain injury. **Neuropathol Appl Neurobiol.** 2002 Mar;28(2):152.
7. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Cerebrospinal fluid apolipoproteinE concentration decreases after traumatic brain injury. **J.Neurotrauma.**2003 Mar;20(3):243-50.
8. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Decreased cerebrospinal fluid apolipoproteinE after subarachnoid haemorrhage: correlation with injury severity and clinical outcome. **Stroke.** 2003 Mar;34(3):637-42.
9. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Temporal alterations in cerebrospinal fluid amyloid B-protein and apolipoprotein E after Traumatic brain injury. **J.Neurotrauma.**2003 20(10):943-952.
10. **Kay AD**, Day SP, Kerr M, Nicoll JA, Packard CJ, Caslake MJ. Remodelling of cerebrospinal fluid lipoprotein particles after subarachnoid haemorrhage. **Atherosclerosis.** 2003 Sep;170(1):141-6.
11. **Kay AD**, Day SP, Kerr M, Nicoll JA, Packard CJ, Caslake MJ. Remodelling of cerebrospinal fluid lipoprotein particles after subarachnoid haemorrhage. **Atherosclerosis.** 2003 Sep;170(1):141-6.
12. Day SD, **Kay AD**, Nicoll JAR, Packard CJ, Caslake M. Characterization of Human Cerebrospinal Fluid Lipoproteins: relevance to acute brain injury. **Atherosclerosis.** 2002 June, 164:203.
13. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Temporal alterations in cerebrospinal Fluid Apolipoprotein E and Amyloid-b protein after Subarachnoid haemorrhage. Proceedings of the 26<sup>th</sup> annual meeting of the European Lipoprotein Club.
14. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Temporal alterations in cerebrospinal fluid amyloid b-protein and apolipoprotein E after subarachnoid haemorrhage. **Stroke.** 2003 Dec;34(12):e240-3.Epub 2003 Nov 6.
15. **Kay AD**, Day SD, Nicoll JAR, Packard CJ, Caslake MJ. Remodelling of Cerebrospinal Fluid Lipoprotein particles After Acute Human Brain Injury. Proceedings of the 26<sup>th</sup> annual meeting of the European Lipoprotein Club.
16. Rejdak K, Petzold A, Sharpe MA, **Kay AD**, Kerr M, Kier G, Thompson EJ, Giovannoni G. Cerebrospinal fluid nitrite/nitrate correlated with oxyhemoglobin and outcome in patients with subarachnoid haemorrhage. **J Neurol Sci.** 2004 Apr 15;219(1-2):71-6.
17. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Cerebrospinal fluid apolipoprotein E after human acute brain injury-evidence for a role in cholesterol recycling and amyloid-b interactions. **British Journal of Neurosurgery.**
18. Petzold A, Kier G, Kerr M, **Kay AD**, Kitchen N, Smith M, Thompson EJ. Early identification of secondary brain damage in subarachnoid haemorrhage: a role for glial fibrillary acidic protein. **J Neurotrauma.** 2006 Jul;23(7):1179-84.
19. Petzold A, Keir G, **Kay AD**, Kerr M, Thompson EJ. Axonal damage and outcome in subarachnoid haemorrhage. **J Neurol Neurosurg Psychiatry.** 2006 Jun;77(6):753-9.

20. Oluigbo CO, Gan YC, Sgouros S, Chapman S, **Kay, AD**, Solanki G, Walsh AR, Hockley AD. Pattern Management and Outcome of Cervical Spinal Injury associated with head injury in Paediatric Patients. **Childs Nerv Syst**. 2008 Jan;24(1):87-92.
21. Durnford AJ, Mulik R, **Kay AD**. Spontaneous regression of a terminal myelocystocele and associated Syringomyelia: a case report. **Childs Nervous System**. 2010 Mar;26(3):403-6.
22. Beech TJ, McDermott AL, **Kay AD**, Ahmed SK. Endoscopic endonasal resection of the odontoid peg- case report and literature review. **Childs Nervous System**. 2012 Oct; 28(10):1795-9.
23. Qurushi HU, Rodrigues D, Roy D, Parulekar M, **Kay AD**. Blinking-an unusual presentation of obstructive hydrocephalus relieved by endoscopic third ventriculostomy. **Childs Nerv Syst**. 2012 Mar;28(3):493-5.
24. Fayeye O, Ushewokunze S, Stickley J, Reynolds F, Solanki, G, Rodrigues D, Walsh AR, **Kay AD**. Does direct admission from an emergency department with on-site neurosurgical services facilitate time critical surgical intervention following a traumatic brain injury in children? **Br J Neurosurg**. 2012 Dec 4.
25. Fayeye O, Pettorini BL, Smith M, Williams H, Rodrigues D, **Kay AD**. Meningococcal Encephalitis associated with cerebella tonsillar herniation and acute cervical injury. **Br J Neurosurg**. 2013 Feb 8.
26. Kanthimathinathan H K, Brown F, Ramirez R, McKaig S, Debelle G, Martin J, Chapple I L, Kay A, Moss C. Multiple Cerebral Abscesses in Papillon-Lefevre Syndrome. **Childs Nerv Syst** 2013 Aug 29 (8) 1227-9

#### Published Articles

1. **Kay AD**, Fisher AJ, O’Kane C, Richards HK, Pickard JD. A clinical audit of the Hakim programmable valve in patients with complex hydrocephalus. **Br J Neurosurg**. 2000.Dec.;14.(6.)535.-42. 14:535-542.
2. **Kay AD**, McIntyre MD, Macrae WA, Varma TR. Spinal cord stimulation-a long-term evaluation in patients with chronic pain. **Br J Neurosurg**. 2001.Aug.;15.(4.):335.-41. 15:335-341.
3. **Kay AD**, Thornhill S, Teasdale GM. The head injured adult –who cares? **Br J Neurosurg**. 2001.Dec.;15.(6.):508.-10. 15:508-510.
4. **Kay AD**, Teasdale G. Head injury in the United Kingdom. **World Journal of Surgery**. 2001.Sep.;25.(9.):1210.-20. 25:1210-1220.
5. Reeder BJ, Sharpe MA, **Kay AD**, Kerr M, Kevin Moore, Wilson MT. Toxicity of myoglobin and Hemoglobin oxidative stress in patients with rhabdomyolysis and subarachnoid haemorrhage. **Biochemical Society Transactions**. 2002; 30(4):745-8.
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7. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Decreased cerebrospinal fluid apolipoproteinE after subarachnoid haemorrhage: correlation with injury severity and clinical outcome. **Stroke**. 2003 Mar;34(3):637-42.
8. **Kay AD**, Day SP, Kerr M, Nicoll JAR, Packard CJ, Caslake MJ. Remodelling of cerebrospinal fluid lipoprotein particles after human traumatic brain injury. **J.Neurotrauma**. 2003 20(8):717-723.
9. **Kay AD**, Day SP, Kerr M, Nicoll JAR, Packard CJ, Caslake MJ. Remodelling of cerebrospinal fluid lipoprotein particles after subarachnoid haemorrhage. **Atherosclerosis**. 2003. Sep;170(1):141-6.
10. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Temporal alterations in cerebrospinal fluid amyloid b-protein and apolipoprotein E after Traumatic brain injury. **J.Neurotrauma**. 2003 20(10):943-952.

11. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Temporal alterations in cerebrospinal fluid amyloid b-protein and apolipoprotein E after subarachnoid haemorrhage. 2003 Dec;34(12):e240-3. Epub 2003 Nov 6.
12. Rejdak K, Petzold A, Sharpe MA, **Kay AD**, Kerr M, Kier G, Thompson EJ, Giovannoni G. Cerebrospinal fluid nitrite/nitrate correlated with oxyhemoglobin and outcome in patients with subarachnoid haemorrhage. **J Neurol Sci**. 2004 Apr 15;219(1-2):71-6.
13. **Kay AD**, Petzold A, Kerr M, Kier G, Thompson E, Nicoll JAR. Cerebrospinal fluid apolipoprotein E after human acute brain injury-evidence for a role in cholesterol recycling and amyloid-b interactions. **British Journal of Neurosurgery**.
14. Petzold A, Keir G, **Kay AD**, Kitchen N, Smith M, Thompson EJ. Early identification of secondary brain damage in subarachnoid haemorrhage: a role for glial fibrillary acidic protein. **J Neurotrauma**. 2006 Jul;23(7):1179-84.
15. Petzold A, Keir G, **Kay AD**, Kerr M, Thompson EJ. Axonal damage and outcome in subarachnoid haemorrhage. **J Neurol Neurosurg Psychiatry**. 2006 Jun;77(6):753-9.
16. Oluigbo CO, Gan YC, Sgouros S, Chapman S, **Kay AD**, Solanki G, Walsh AR, Hockley AD. Pattern Management and Outcome of Cervical Spine Injury associated with head injury in Paediatric Patients. **Childs Nerv Syst**. 2008 Jan;24(1):87-92.
17. Durnford AJ, Mulik R, **Kay AD**, Ahmed SK. Spontaneous regression of a terminal myelocystocele and associated syringomyelia: a case report. **Childs Nervous System**. 2010 Mar;26(3):403-6.
18. Beech TJ, McDermott AL, **Kay AD**, Ahmed SK. Endoscopic endonasal resection of the odontoid peg – case report and literature review. **Childs Nervous System**. 2012 Oct; 28(10):1795-9.
19. Qurushi HU, Rodrigues D, Roy D, Parulekar M, **Kay AD**. Blinking – an unusual presentation of obstructive hydrocephalus relieved by endoscopic third ventriculostomy. **Childs Nervous System**. 2012 Mar;28(3):493-5.
20. Fayeye O, Ushewokunze S, Stickley J, Reynolds F, Solanki G, Rodrigues D, Walsh AR, **Kay AD**. Does direct admission from an emergency department with on-site neurosurgical services facilitate time critical surgical intervention following a traumatic brain injury in children? **Br J Neurosurg**. 2012 Dec 4.
21. Fayeye O, Pettorini BL, Smith M, Williams H, Rodrigues D, **Kay AD**. Meningococcal Encephalitis associated with cerebella tonsillar herniation and acute cervical injury. **Br J Neurosurg**. 2013 Feb 8.

### **MD Thesis-Degree of Doctor of Medicine (University of London).**

Thesis presenting novel findings from the analysis of cerebrospinal fluid after acute human brain injury in relation to apolipoprotein E and amyloid-B. Research funded by the award of a Wellcome Clinical Research Training Fellowship secured following submission of a research grant proposal and competitive interview.

**Book Chapter:** In **BRAIN INJURY**. 2<sup>nd</sup> edition 2001. Edited by Robert Clark and Patrick Kochanek. Kluwer Academic Publishers. Chapter 15:pp 317-347.

ROLE OF GENETIC BACKGROUND: INFLUENCE OF APOLIPOPROTEIN E GENOTYPE IN ALZHEIMER'S DISEASE AND AFTER HEAD INJURY.

**Book Chapter:** In **FARQUHARSON'S TEXTBOOK OF OPERATIVE GENERAL SURGERY**. Latest edition due for publication 2013/14. Taylor Francis  
HEAD INJURY.

## **Publication/Journal Review**

I have acted as expert referee for:

- Journal of Neurosurgery
- Journal of Neurotrauma
- Journal of Neurology, Neurosurgery and Psychiatry
- Coronary Artery Disease
- European Journal of Chemistry

## **Continued Medical Education**

Society of British Neurological Surgeons Conference, London (1993)  
Society of British Neurological Surgeons Conference, Dublin (1995)  
Research Methodology for Surgical Specialist Registrars, RCS Edinburgh (1996)  
Home Office Small Animal Research License, Veterinary School, Glasgow (1997)  
Basic Neurosurgical Anatomy Course for Trainees, RCS London (1997)  
Neuro-anatomy of the Cervical Spine, RCS London (1998)  
Advanced Trauma Life Support (ATLS) Provider course (1998)  
Society of British Neurological Surgeons Conference, Sheffield (1998)  
European Association of Neurosurgical Societies (EANS) course, Portugal (1998)  
European Association of Neurosurgical Societies (EANS) course, Spain (1999)  
European Association of Neurosurgical Societies (EANS) course, France (2000)  
Society of British Neurological Surgeons Conference, Southampton (2000)  
European Association of Neurosurgical Societies (EANS) course, Netherlands (2001)  
Neurosurgical Specialist Fellowship Course, London (2002)  
European Society for Paediatric Neurosurgery-Postgraduate Course, Scotland (2004)  
Medico-Legal Report Writing, Birmingham (2004)  
Advanced Medico-Legal Report Writing, Birmingham (2004)  
Giving Expert Evidence in Court, London (2004)  
European Society for Paediatric Neurosurgery-Postgraduate Course, Poland (2005)  
Anglo-French Paediatric Neurosurgery Meeting, France (2005)  
Cervical Spine Fixation course, Oxford (2005)  
Anglo-French Paediatric Neurosurgery Meeting, France (2007)  
European Society for Paediatric Neurosurgery-Postgraduate Course, Hungary (2006)  
European Society for Paediatric Neurosurgery-Postgraduate Course, Turkey (2007)  
International Society of Paediatric Neurosurgery Conference, UK (2007)  
British Syringomyelia Group Meeting, Rugby (2007)  
Complex Spine Instrumentation course, Barcelona (2008)  
Anglo-French Paediatric Neurosurgery Meeting, UK (2008)  
Society of British Neurological Surgeons Conference, Birmingham (2009)  
Anglo-French Paediatric Neurosurgery Meeting, UK (2010)  
British Paediatric Neurosurgery Group Meeting, Manchester (2010)  
Society of British Neurological Surgeons Conference, London (2010)  
British Paediatric Neurosurgery Group Meeting, Cambridge (2011)  
European Society of Paediatric Neurosurgery Conference, Amsterdam (2012)  
15<sup>th</sup> International Symposium on Paediatric Neuro-Oncology, Toronto (2012)

6<sup>th</sup> International Congress of World Federation of Skull Base Societies, UK (2012)  
British Syringomyelia Group Meeting, Sheffield (2012)  
British Paediatric Neurosurgery Group Meeting, Birmingham (2012)  
British Skull Base Society Meeting, Leeds (2012)  
British Skull Base Society Meeting, Nottingham (2013)  
British Paediatric Neurosurgery Group Meeting, Sheffield (2013)  
World Congress Skull Base Surgery, Brighton (2013)  
International Paediatric Neurosurgery Society Meeting, Mainz (2013)  
British Skull Base Society Meeting, London (2014)  
International Neurooncology Meeting, Singapore (2014)  
International Epilepsy Surgery Meeting, Gothenberg (2014)  
British Skull Base Society Meeting, Dublin (2015)  
Consensus meeting on intra-operative spinal monitoring Athens (2015)  
British Syringomyelia Group Meeting, Birmingham (2015)  
British Skull Base Society Meeting, Birmingham (2016)  
British Syringomyelia Group Meeting, Birmingham (2016)  
Cerebrospinal Fluid Disorders Meeting, Birmingham (2016)  
British Skull Base Society Meeting, Cardiff (2017)  
British Neurosurgical Group Meeting, Birmingham (2017)