

M. ROSS BULLOCK, M.D. Ph.D.
University of Miami School of Medicine
Curriculum Vitae

1. Date: February 2011

I. PERSONAL

2. Name: Malcolm Ross Bullock
3. Office Phone: (305) 243-4456
4. Home Address: Private
5. Current Academic Rank: Professor
6a. Current Track of Appointment: Research
6. Primary Department: Neurological Surgery
7. Secondary/Joint Appointment:
8. Citizenship: United States
9. Visa Type: N/A

II. HIGHER EDUCATION

10. INSTITUTIONAL

Dec 1975 MB ChB (equivalent to MD, awarded with Honors) Birmingham University, UK.
Jun 1980 FRCS Glasgow and Edinburgh
Jun 1983 FRCS Surgical Neurology, Edinburgh
Jun 1989 PhD Neuroscience, University of Natal, South Africa.

11. NON-INSTITUTION:

Apr 1982-Dec 1984 Neurosurgical Residency
Institute of Neurological Sciences /University of Glasgow
Glasgow, Scotland
UK

Mar 1980-Mar 1982 Neurosurgical Residency
Wentworth Hospital
Durban, South Africa

Jan 1977-Feb 1980 Residency Training
General Surgical
University of Natal Teaching Hospital System
Durban, South Africa

Jan 1976-Dec 1976 Medical and Surgical Internship
Harare Hospital
Harare, Zimbabwe

12. CERTIFICATION & LICENSURE

Florida Licensure No. ME 106096 Dec. 2009
Virginia, #0 109-541097 (limited Jan.1993, full in Sept. 1997)
US Federal Licensure Exam (FLEX), 1993
Gen. Medical Council (UK), 1976
Neurosurgical specialist accreditation, (UK GMC), 1986
South African specialist register, neurosurgery, 1986

III. EXPERIENCE

13. **ACADEMIC:**

- | | |
|---------------------|---|
| Oct 2007-Present | Clinical Director, Neurotrauma Program
The Miami Project to Cure Paralysis
University of Miami School of Medicine
Miami, FL |
| June 2000-July 2007 | Director, Neurovascular Surgery
MCV/VCU Health System
Richmond, VA |
| July 1997-July 2007 | Reynolds Professor, Division of Neurosurgery
Virginia Commonwealth University
Richmond, VA |
| July 1997-July 2007 | Clinical Director, Neuro intensive Care Unit
Virginia Commonwealth University
Richmond, VA |
| Nov 1992-July 1997 | Lind Lawrence Associate Professor
Division of Neurosurgery
Virginia Commonwealth University
Richmond, VA |
| Nov 1991-June 1992 | Acting Head
Department of Neurosurgery (six month period)
University of Glasgow
Glasgow, Scotland
UK |
| Mar 1987-Oct 1992 | Senior Lecturer/Associate Professor, Attending Neurosurgeon
Department of Neurosurgery
University of Glasgow, Institute of Neurological Sciences
Glasgow, Scotland
UK |
| Jan 1985-Jan 1987 | Senior Lecturer/Attending Neurosurgeon
Department of Neurosurgery
University of Natal, Wentworth Hospital
Durban, South Africa |

14. **HOSPITAL APPOINTMENT:**

15. **NON – ACADEMIC:**

16. **MILITARTY:**

- | | |
|--------------|---|
| January 2007 | Volunteer Neurosurgeon
US Army
Landstuhl Military Hospital
Germany |
|--------------|---|

IV. PUBLICATIONS

17. BOOKS:

1. Hayashi H, **Bullock R**. Brain Hypothermia, Springer Verlag, Tokyo, 2004.
2. Head Injury. Reilly and **Bullock** Second edition Hodder Arnold. 2004.
3. **Bullock R**, Marmarou A, Alessandri B, Watson J. "Neuromonitoring in Brain Injury," Springer Verlag Wein, New York. 1999.
4. Head Injury-Pathophysiology and Management, Reilly and **Bullock**, Chapman and Hall, published July 1997.(available free at: <http://www.edc.gspitt.edu/neurotrauma/thebook/prelims.pdf>)
5. Marmarou A, **Bullock R**, et al, "Intracranial Pressure and Neuromonitoring in Brain Injury," Springer, New York, 1997.

BOOK CHAPTERS (INVITED AUTHORSHIP):

1. Benglis, D. Trimble, **B Bullock, R** Past, Present and Future Developments of Intracranial Monitoring in Traumatic Brain Injury in Le Roux, Kofke, d- Intracranial monitoring in intensive care, 2010
2. Jonathan Jagid, MD, Leo Harris, PA, and <. **Ross Bullock, MD, PhD**- Traumatic Intraparenchymal hematoma- lobectomy- In "Neurosurgical Tricks of the Trade", 2010
3. Kristine J. O'Phelan, Halinder S. Mangat, Stephen E. Ovey, and **Mr. Ross Bullock** Multimodality monitoring in Acute Brain Injury in Handbook of Neurointensive Care, 2010
4. Hood, Brian, MD, Harris, L. **Bullock, R MD PhD** Major Blunt Head Injury in: Trauma Critical Care and Surgical Emergencies: A case and Evidence Based Textbook, Rabinovici R, frankel, H, Kirton, O eds, Informa Healthcare Publishers, UK, 2010
5. Padayachy LC, Figaji AA, **Bullock MR**. *Intracranial pressure monitoring for Traumatic Brain Injury in the Modern Era*. In-press Childs Brain, 2009
6. Prahbu S, Zauner A, **Bullock R**. Surgical management of traumatic brain injury in Youman's Neurological Surgery - 5th Edition. W.B. Saunders, 2004
7. E.M.R. Doppenberg, R. **Bullock**, W. Broaddus. Pathophysiology and management of head injury. Modern Surgical Care: Physiologic Foundations & Clinical Applications, 2003.
8. Tolia C.M., **Bullock R**. Critical appraisal of Neuroprotection Trials in Head Injury: What have we learned? NeuroRx 2003.
9. Alves OL, **Bullock RM**. Excitotoxic Damage in Traumatic Brain Injury. Book Chapter, Brain Injury, Molecular and Cellular Biology of Critical Care Medicine. Clark and Kochanek. Pub Kluwer-Lippincott, May 2001.
10. **Bullock R**. Section Editor, Neurotrauma Volume, Neurosurgery - 3rd Edition. Ed: Rengachary - McGraw-Hill. , 2001 (3 chapters also).
11. Clausen T, **Bullock R**. Head injury in Wiley and Churchill - Davidsons A Practice of Anesthesia., 2001.
12. Choi S, **Bullock R**. Severe head injury - multi-centered trial design as statistical analysis. Neurological Research, 2000.

13. Clausen T, **Bullock R**. Medical treatment and neuroprotection in traumatic brain injury in Update in A Medical Treatment of Head Injury. @ Current Pharmaceutical Design. 2000.
14. Vaughan J, **Bullock R**, Cellular and Vascular Pathophysiology of Stroke. In: Stroke Therapy: Basic, Preclinical, and Clinical Directions. Ed: Miller L.P. (Raven), 1999.
15. Alessandri B, **Bullock R**. Glutamate and its receptor sin the pathophysiology of brain and spinal cord injury. In: Progress in brain research: The Glutamate Synapse as Therapeutic Target—Eds: Ottersen O, Langmoen I, Ajenstan L, 1998.
16. Alessandri, E. Doppenberg, A. Zauner, J. Woodward, S. Choi, R. **Bullock**. Evidence for time-dependent glutamate-mediated glycol sis in head injured patients. A microdialysis study.. Proceedings, Second Int.Symp. Neurochemical Monitoring in the ICU, 1998. Acta NeurochirSuppl 1999:75:25-28.
17. Oetting, G., and **Bullock, R.:** The biology of head injury. In: Bittar, E.E. (Series Ed.), Principles of Medical Biology, JAI Press, Greenwich, CT, 1998.
18. Winters C, **Bullock R**, Young HF, Kauffmann H. Biochemical changes after craniocerebral injury. In: craniocerebral missile wounds: AANS Press, 1998
19. **Bullock, R.**, and Graham, D.I.: Impacts to specific sites: Head injury and management. Cooper, G., Dudley, H.A.F., Gann, D., Little, R.A., and Maynard, R.L. (Eds.), Scientific Foundations of Trauma, 1997.
20. Doppenberg E, **Bullock R**, Watson J, Gerber M, Zauner A, Abraham D. The rationale for and effects of oxygen delivery enhancement to ischemic brain in a feline model of human stroke. Ann. NY Acad. Sci., 825, 241-257, 1997.
21. Doppenberg E, Choi S, **Bullock R**. Clinical trials in traumatic brain injury: What can we learn from previous studies? In: Ann. NY Acad. Sci 825: pp 305-322, 1997.
22. E. Doppenberg, A. Zauner, R. **Bullock**, J. Watson, H. Young. Determination of the ischemic threshold for brain tissue oxygenation in the severely head injured patient. Tenth International Symposium on ICP and Neuromonitoring in Brain Injury. Williamsburg, USA. 1997.
23. **Bullock R**. Neuroprotective drug therapy in head injury: Current status and future trends. In: Narayan RJ, Wilberger JE, Povlishock JT. (Eds.), McGraw-Hill, 1996.
24. Myseros, J, Watson JC, **Bullock R**. Neuroprotection in severe human head injury—a pharmacologic dilemma. Trauma Quart. In press, 1996.
25. Watson J, **Bullock R**. Neuroprotection in Acute Neurological Disease: Trauma to the Brain and Spinal Cord. (Eds.), Beal F, Bar D. Neuroprotection: Fundamental and Clinical Aspects. Marcel Dekker, NY (in Press), 1996
26. Zauner A, **Bullock R**, Kuta J, Woodward JJ, Young HF. Glutamate release and cerebral blood flow after severe head injury. Aeta Neurochirurgica, in press, 1996.
27. **Bullock R**, Ward JD. Head injury. In: Schumacker AS, Ayres S, Grenvick A., (Eds.), Critical Care Medicine, Third Edition, Raven Press, NY, 1995.

28. **Bullock R.** Strategies for Neuroprotection with Glutamate Antagonists. Extrapolating from evidence taken from the first stroke and head injury studies. *Ann. NY, Acad. Sciences* 1995 Sept 15; 765-272-278.
29. **Bullock R, Zauner A, Myseros JS, Marmarou A, Woodward JJ, Young HF.** Evidence for Prolonged Release of Excitatory Amino Acids in Severe Human Head Trauma. In: Trembly B, Slikker W, (Eds.) *Neuroprotective Agents, Vol 765, Ann. NY Acad. Sciences*, pp 290-297, 1995.
30. **Bullock, R., Zauner, A., Tsuji, O., Woodward, J.J., Marmarou, A.T., and Young, H.F.:** Patterns of excitatory amino acid release and ionic flux after severe human head trauma. *Neurochemical Monitoring in the Intensive Care Unit.* Eds. Tsubokawa T., Marmarou A., Robertson C., Teasdale G.: 64-71, 1995. *Proc. Ninth Intl. Symp. On ICP and Brain Damage, Springer-Verlag, Tokyo, Japan, pp. 64-71, 1995.*
31. Fujisawa, H., **Bullock, R.,** and Landolt, H.: Glutamate neurotoxicity as a mechanism of ischemic brain damage - a basic study using a new in vivo model. *Proc. Ninth Intl. Symp. On ICP and Brain Damage, Springer-Verlag, Tokyo, Japan, pp. 26-33, 1995.*
32. Myseros JS, **Bullock R.** The Rationale for Glutamate Antagonists in the treatment of Traumatic Brain Injury. In: Trembly B, Slikker W, (Eds.), *Ann. NY, Acad. Sciences*, pp 262-271, 1995.
33. **Bullock, R.:** Glutamate antagonist therapy in severe head injury. In: von Wild (Ed.), *Spektrum der Neurorehabilitation, W. Zuckschwerdt, Verlag, Munchen, 1994, pp. 57-61.*
34. **Bullock, R., Muizelaar, P., and Young, H.F.:** Experience with the free radical scavenging agent PEG-SOD in severe human head injury. A Phase II placebo-controlled trial. In: von Wild (Ed.), *Spektrum der Neurorehabilitation, W. Zuckschwerdt, Verlag, Munchen, 1994, pp. 66-71.*
35. **Bullock, R., and Teasdale, G.M.:** Management of intracranial hematomas. In: Hanley, D. (Ed.), *Textbook of Neurointensive Care. Williams and Wilkins, 1994.*
36. **Bullock, R.:** Intracranial pressure monitoring. In: Sebel, P., Fitch, W. (Eds.), *Monitoring the Central Nervous System, Williams and Wilkins, Baltimore, MD, 1994.*
37. **Bullock, R.:** Neuroprotective drug therapy in head injury: Current status and future trends. In: Narayan, R.J., Wilberger, J.E., and Povlishock, J.T. (Eds.), *McGraw-Hill, 1994.*
38. **Bullock, R., Schroder, M.L., Muizelaar, J.P., Salvant, J.B., and Povlishock, J.T.:** Pericontusional brain edema: Evidence for microvascular hypoperfusion in humans. *Proc. Ninth Intl Symp on ICP and Brain Damage, Springer-Verlag, Tokyo, Japan, 1994.*
39. **Bullock, R., Zauner, A., Tsuji, O., Woodward, J.J., Young, H.F., and Marmarou, A.T.:** Excitatory amino acid release after severe human head trauma: Effect of intracranial pressure and cerebral perfusion pressure changes. *Intracranial Pressure IX.* Eds. Nagai H., Kamiya K., Ishii S.: 264-267, 1994. *Proc. Ninth Intl Symp on ICP and Brain Damage, Springer-Verlag, Tokyo, Japan, 1994.*
40. **Bullock, R., Teasdale, G.M., Kotake, A., Stewart, L., and Wagstaff, A.:** Experience with the glutamate antagonist CGS19755 in severe human head injury: evidence for ICP lowering effect. *Proc. Ninth Intl Symp on ICP and Brain Damage, Springer-Verlag, Tokyo, Japan, 1994.*
41. **R. Bullock, A. Zauner, O Tsuji, AT Marmarou, JJ Woodward, HF. Young:** Patterns of excitatory amino acid release and ionic flux after severe head trauma: In *Neurochemical Monitoring in the Intensive Care*

- Unit. @ Eds: Tussock T, Marmarou A, Robertson C, Teasdale G. Springer, 64-71, 1994.
42. **Bullock**, R., Landolt H., Maxwell, W.L., and Fujisawa, H.: Massive astrocytic swelling in response to extracellular glutamate a possible mechanism for post-traumatic brain swelling? In: Ito, U., et al. (Eds.), Brain Edema IX, 1993, Yokohama, Japan. Acta Neurochir. 60:465-467, 1994.
 43. **Bullock**, R., and Blake, G.T.: Surgical decision making in patients with traumatic contusion and intracerebral hematoma—ICP monitoring on CT scanning. In: Proc. 8th Intl Symp on ICP, Springer-Verlag, Rotterdam, 1994, pp. 272-276.
 44. Fujisawa H, Landolt H, **Bullock** R. Glutamate neurotoxicity as a mechanism of ischemic brain damage: A basic study using a new in vivo model. In: Neurochemical monitoring in the Intensive Care Unit. @ Eds: Tsubokawa T, et al. Springer, pp.26-33, 1994.
 45. Fujisawa, H., Maxwell. W.L., Graham, D.I., Teasdale, G.M., and **Bullock**, M.R.R.: Focal microvascular occlusion after acute subdural hematoma in the rat: A mechanisms for ischemic damage and brain swelling? In: Ito, U., et al. (Eds.), Brain Edema IX, Yokohama, Japan. Acta Neurochir. 60:193-196, 1994.
 46. Marmarou, A., **Bullock**, R., Muizelaar, P., Young, H., and TCDB Group: The contribution of raised ICP and hypotension to reduce cerebral perfusion pressure in severe brain injury. Proc. Ninth Intl Symp on ICP and Brain Damage, Springer-Verlag, Tokyo, Japan, 1994.
 47. Mathew, P., Graham, D.I., **Bullock**, M.R.R., Maxwell, W.L., McCulloch, J., and Teasdale, G.: Focal brain injury: Histological evidence of delayed inflammatory response. In: Ito, U., et al. (Eds.), Brain Edema IX, Yokohama, Japan. Acta Neurochir. 60:428-430, 1994.
 48. Maxwell, W.L., **Bullock**, R., Scott, A., Kuroda, Y., Graham, D.I.: Diffuse astrocyte swelling and increased second messenger activity following acute haemophilus influenzae meningitis-evidence from a rat model. In: Ito, U., et al. (Eds.), Brain Edema IX, Yokohama, Japan. Acta Neurochir. 60:45-47, 1994.
 49. Stewart, L., **Bullock**, R., Rafferty, C., Fitch, W., and Teasdale, G.M.: Propofol sedation in severe head injury fails to control high ICP, but reduces brain metabolism. In: Ito, U., et al. (Eds.), Brain Edema IX, Yokohama, Japan. Acta Neurochir. 60:544-546, 1994.
 50. Teasdale, G.M., **Bullock**, R., and McCulloch, J.: Pharmacological therapy of human head injury - can laboratory efficacy be translated to improved clinical outcome? Proceedings of First International Neurotrauma Meeting, Fukushima, Japan, 1994.
 51. Tsuji, O., Marmarou, A., and **Bullock**, R.: Microdialysis detection of electrolytes and amino acid changes following head impact acceleration injury, coupled with secondary insult. Proc. Ninth Intl. Symp. On ICP and Brain Damage, Springer-Verlag, Tokyo, Japan, 1994.
 52. **Bullock**, R., Fujisawa, H., and Landolt, H.: Glutamate-induced neurotoxicity and acute brain damage. In: Kempfski, O. (Ed.), Glutamate - Transmitter and Toxin, W. Zuckschwerdt Verlag, Munchen, 1993, pp.113-122.
 53. **Bullock**, R., Mendelow, A.D., Patterson, J., Bone, I., Teasdale, G.M., and Mill, G.: Inhalation CBF measurement as an indicator of carotid artery disease in man. Greenhalg, L.R.M., Rose, F.C. (Ed.), In: Progress in Stroke Research, Pitman Medical, Bath, 1993.
 54. Teasdale, G.M., **Bullock**, R., Stewart, L., Wagstaff, A., and Jones, M.: Glutamate and glutamate

- antagonists in head injury. In: Kempfski, O. (Ed.), *Glutamate-Transmitter and Toxin*, W. Zuckschwerdt Verlag, Munchen, 1993, pp. 106-113.
55. **Bullock**, R., Butcher, S., Graham, D.I., and Teasdale, G.M.: Excitatory amino acid release after focal cerebral ischemia: infarct volume determines EAA release. In: Dietrich, D., Globus, M. (Eds.), *Proceedings of Satellite Symposium, The Role of Neurotransmitters in Brain Injury*, 1992, pp. 9-14.
 56. Grosset, D., and **Bullock**, R.: Subarachnoid hemorrhage. The role of Transcranial Doppler sonography. In: Teasdale, G.M. and Miller, J.D., (Eds.), *Recent Advances in Neurosurgery*, Chpt. 6, Churchill Livingstone, 1992, pp. 101-118.
 57. Kuroda, Y., Dewar, D., and **Bullock**, R.: Increased phorbol ester binding and decreased forskolin binding in ischaemic cortex after subdural hematoma in the rat: an in vitro autoradiographic study. *Proceedings of Satellite Symposium, The Role of Neurotransmitters in Brain Injury*, 1992, pp. 241-246.
 58. Miller, J.D., **Bullock**, R., Graham, D.I., Chen, M.-H., and Teasdale, G.M.: Ischemic brain damage in a model of acute subdural hematoma, Mosby Year Book, Inc. 27:433-439, 1992.
 59. **Bullock**, R., and Teasdale, G.M.: Head injuries. In: Skinner, D., Driscoll, P., and Earlam, R. (Eds.), *ABC of Major Trauma*, Brit. Med. J., 1991, pp. 25-33.
 60. **Bullock**, R., and Teasdale, G.M.: Head injury and brain ischemia: Monitoring and prediction of outcome. *Proceedings of the International Symposium on Brain Resuscitation*. Takeshita, H., Siesjo, B.K., and Miller, J.D. (Eds.), Springer-Verlag, Yamaguchi, Japan, 1988, Chpt. 18, 1991, pp. 233-245.
 61. McCulloch, J., **Bullock**, R., and Teasdale, G.M.: Excitatory amino acid antagonists: Opportunities for the treatment of ischemic brain damage. In: Meldrum, B. (Ed.), *Excitatory Amino Acid Antagonists*, Blackwell, Chpt. 14, 1991, pp. 287-326.
 62. **Bullock**, R., Butcher, S.P., and McCulloch, J.: Changes in extracellular glutamate concentration after acute subdural hematoma in the rat - evidence for an Excitotoxic@ mechanism? In: *Brain Edema 1990*. VIII, Reulen, H.-J., Baethmann, A., Fenstermacher, J., Marmarou, A., and Spatz, M. (Eds.), Springer-Verlag, Acta Neurochir. 51 (Suppl):274-276.
 63. **Bullock**, R., Statham, P., Patterson, J., Wyper, D., Hadley, D., and Teasdale, E.: The time course of vasogenic edema after focal human head injury - evidence from SPECT mapping of blood brain barrier defects. *Brain Edema 1990*. VIII, Reulen, H.-J., Baethmann, A., Fenstermacher, J., Marmarou, A., and Spatz, M. (Eds.), Springer-Verlag, Acta Neurochir. 51(Suppl):286-288.
 64. Butcher, S.P., **Bullock**, R., Graham, D.I., and McCulloch, J.: Occlusion of the middle cerebral artery induces release of neuroactive amino acids in rat striatum and cortex: Correlation with neuropathological outcome. *Third International Symposia on the Pharmacology of Cerebral ischemia*, Marburg, Germany, July, 1990.
 65. Inglis, F.M., **Bullock**, R., Chen, M.-H., Graham, D.I., Miller, J.D., McCulloch, J., and Teasdale, G.M.: Ischaemic brain damage associated with tissue hypermetabolism in acute subdural hematoma. Reduction by a glutamate antagonist. *Brain Edema 1990*. VIII, Reulen, H.-J., Baethmann, A., Fenstermacher, J., Marmarou, A., and Spatz, M. (Eds.), Springer-Verlag, Acta Neurochir. 51(Suppl):277-279.
 66. **Bullock**, R., Teasdale, G.M., Wyper, D., Patterson, J., and Teasdale, E.: Tomographic mapping of CBF, CBV and blood brain barrier changes after focal head injury using SPECT: mechanisms for late

deterioration. Proceedings of VIIIth International Symposium on Intracranial Pressure and Brain Injury, 1989, pp. 637-639.

67. Richards, A.M., Graham, D.I., and **Bullock**, R.: Neurological complications of eclampsia. Proceedings of VIIIth International Symposium on Intracranial Pressure and Brain Injury, 1989.
68. **Bullock** R., Teasdale G. M. Surgical management of Traumatic Intracranial hematomas (Chapter 10). In Handbook of Clinical Neurology, 1988 13(57):249-298.
69. Mendelow, A.D., **Bullock**, R., Nath, F.P., Jenkins, A., Kingman, T., and Teasdale, G.M.: Experimental intracranial haemorrhage: Intracranial pressure changes and cerebral blood flow. In: Miller, J.D., Teasdale, G.M., et al., Proceedings of the VIth International Conference o ICP, Springer-Verlag, 1986, pp. 515-520.
70. **Bullock**, R., Blake, G., du Trevou, M., and Favier, J.: The value of CT scan density measurements after human head injury: A comparative study using microgravimetric measurement of brain specific gravity. In: Miller, J.D., Teasdale, G.M., et al. (Eds.), 1984
71. Teasdale, G.M., Richards, A.M., **Bullock**, R., and Thomson, J.A.: The outcome of pituitary exploration in patients with hyperprolactinaemic infertility. In: Jacobs, N.S. (Ed.), Prolactinomas and Pregnancy, MTP Press Ltd, 1983, pp. 33-38.

18. JURIED OR REFEREED JOURNAL ARTICLES OR EXHIBITIONS:

1. Richardson RM, Singh A, Sun D, Fillmore HL, Dietrich DW, **Bullock MR**. *Stem cell biology in traumatic brain injury: Effects of injury and strategies for repair*. J Neurosurg. 2010 May; 112(5):1125-38
2. Padayachy LC, Figaji AA, **Bullock MR**. *Intracranial pressure monitoring for Traumatic Brain Injury in the Modern Era*. Childs Nervous System 2010 April; 26(4):441-52
3. Mazzeo AT, Brophy G, Gilman CB, Alves OL, Robles JR, Hayes RL, Povlishock J, **Bullock R**. *Safety and tolerability of cyclosporin A in severe traumatic brain injury patients: results from a prospective, randomized trial*. J Neurotrauma. 2009 Dec; 26(12):2195-206.
4. **Bullock R**, BOOK REVIEW Intracranial Pressure and Brain Monitoring XIII: Mechanisms and Treatment (Acta Neurochirurgica Supplementum), Supplement 102 August 13, 2009 as 10.3174/ ajnr.A1814
5. Mazzeo AT Beat A, Singh A, **Bullock MR**. *The role of mitochondrial transition pore, and its modulation, in traumatic brain injury and delayed neurodegeneration after TBI*. Exp Neurol. 2009 Aug; 218(2):363-70.
6. Ziai WC, Torbey MT, Naff NJ, Williams MA, **Bullock R**. Marmarou A, Tuhim S, Schmutzhard E, Pfausler B, Hanley DF. *Frequency of sustained intracranial pressure elevation during treatment of severe intraventricular hemorrhage*. Cerebrovascular Dis. 2009 June; 27(4):403-10.
7. Marion D, **Bullock MR**. *Current and future role of therapeutic hypothermia*. J Neurotrauma. 2009 Mar;26(3):455-67
8. B Alessandri, M Gugliotta, JE Lévassieur, **MR Bullock**. *Lactate and glucose as energy substrates and their role in traumatic brain injury and therapy*. Future Neuro. 2009 Mar; 4(2): 209-228
9. Toliaas CM, Kumaria A, and **Bullock, MR**. *"Hyperoxia and traumatic brain injury"* JNS 2009 Mar Vol. 110(3),

607-609

10. Sun D, **Bullock MR**, McGinn MJ, Zhou Z, Altememi N, Hagood S, Hamm R, Colello RJ. *Basic fibroblast growth factor-enhanced neurogenesis contributes to cognitive recovery in rats following traumatic brain injury*. Exp Neurol. 2009 Mar; 216(1):56-65. Epub 2008 Nov 27.
11. Zhou Z, Sun D, Levasseur JE, Merenda A, Hamm RJ, Zhu J, Spiess BD, **Bullock MR**. *Perfluorocarbon emulsions improve cognitive recovery after lateral fluid percussion brain injury in rats*. Neurosurgery. 2008 Oct; 63(4):799-806; discussion 806-7.
12. Hartings JA, Gugliotta M, Gilman C, Strong AJ, Tortella FC, **Bullock MR**. *Repetitive cortical spreading depolarizations in a case of severe brain trauma*. Neurol Res. 2008 Oct; 30(8):876-82.
13. Mazzeo AT, Alves OL, Gilman CB, Hayes RL, Toliaas C, Niki Kunene K, **Bullock MR**. *Brain metabolic and hemodynamic effects of cyclosporin A after human severe traumatic brain injury: a microdialysis study*. Acta Neurochir (Wien). 2008 Oct; 150(10):1019-31; discussion 1031.
14. Fabricius M, Fuhr S, Willumsen L, Dreier JP, Bhatia R, Boutelle MG, Hartings JA, **Bullock R**, Strong AJ, Lauritzen M. *Association of seizures with cortical spreading depression and peri-infarct depolarisations in the acutely injured human brain*. Clin Neurophysiol. 2008 Sep; 119(9):1973-84.
15. **Bullock MR**. "Hyperoxia." JNS 2008 Sept. Vol. 109(3): 421-423
16. Maas AI, Stocchetti N, **Bullock R**. *Moderate and severe traumatic brain injury in adults*. Lancet Neurol. 2008 Aug; 7(8):728-41.
17. Saatman KE, Duhaime AC, **Bullock R**, Maas AI, Valadka A, Manley GT; Workshop Scientific Team and Advisory Panel Members. *Classification of traumatic brain injury for targeted therapies*. J Neurotrauma. 2008 July; 25(7):719-38.
18. Merenda A, Gugliotta M, Holloway R, Levasseur JE, Alessandri B, Sun D, **Bullock MR**: *Validation of brain extracellular glycerol as an indicator of cellular membrane damage due to free radical activity after traumatic brain injury*. J Neurotrauma. 2008 May; 25(5):527-37.
19. Mazzeo AT, **Bullock R**. *Monitoring brain tissue oxymetry: will it change management of critically ill neurologic patients?* J Neurol Sci. 2007 Oct; 261(1-2):1-9.
20. Daugherty WP, Sun D, Levasseur JE, Altememi N, Hamm RJ, Rockswold GL, **Bullock MR**. *Protection of mitochondrial function and improvement in cognitive recovery in rats treated with hyperbaric oxygen following lateral fluid percussion injury*. J. Neurosurgery. 2007 Apr; 106(4):687-94
21. Kleindienst A, Hesse B, **Bullock R**, Buchfelder M, *The neurotrophic protein S100B: value as a marker of brain damage and possible therapeutic implications*. Prog Brain Res. 2007; 161:317-25.
22. Richardson RM, Sun D, **Bullock MR**. *Neurogenesis Following Traumatic Brain Injury*. Neurosurg Clin N Am. 2007 Jan; 18 (1), 169-181.
23. Sun D, McGinn MJ, Zhou Z, Harvey HB, **Bullock MR**, Colello RJ, *Anatomical integration of newly generated granule neurons following TBI in adult rats and its association to cognitive recovery*. Exp. Neurology. 2007 Mar; 204, 264-272
24. **Bullock R**, Chestnut R, Ghjar J, Gordon D, Hart L, Newell DW, Servadei F, Walters BC, Wilberger, J. *Surgical management of traumatic brain injury – a set of guidelines*. Neurosurgery 2006 Mar; 58(3

Suppl):S25-46.

25. Kleindienst A, **Bullock R**. A critical analysis of the role of the neurotrophic protein S100B in acute brain injury. *J Neurotrauma*. 2006 Aug; (8):1185-200.
26. Levasseur J, Clausen T, Altememi, N, **Bullock R**. Oxygen consumption both in sham and lateral fluid percussed rat brains. *Neurosurgery*. 2006 Nov; 59(5):1122-30;
27. Mazzeo AT, Kunene NK, Gilman C, Hamm RJ, Hafez N, **Bullock MR**. Severe human traumatic brain injury, but not Cyclosporin A treatment, depresses activated lymphocytes early after injury. *J Neurotrauma*. 2006 June ;23(6):962-75
28. Samuelson, R, Kunene, N Mazzeo, A, **Bullock, R**, Young, H. Synthes, Award For Resident Research On Craniofacial And Brain Injury: effect of cyclosporin A, topiramate, or 100% oxygen as proposed "neuroprotective" therapies on the neurochemical analytes in patients with severe traumatic brain injury. *Clin Neurosurg* 2006; 53:307-12.
29. Alves L, **Bullock R**, Clausen T, Reinhardt M, Reeves TM, Concurrent monitoring of cerebral electro physiology and metabolism after traumatic brain injury: an experimental and clinical study. *J Neurotrauma*. 2005 July; 22(7):733-49.
30. Clausen T, Khaldi A, Zauner A, Reinhardt M, Doppenberg E, Menzel J, Soukup J, **Bullock, R**. Cerebral acid base homeostasis after severe traumatic brain injury. *J Neurosurg*. 2005 Oct; 103(4):597-607
31. Clausen T, Alves O, Reinhardt M, Doppenberg E, Zauner A, **Bullock R**. Association between elevated brain tissue glycerol levels and poor outcome following severe traumatic brain injury. *J Neurosurg*. 2005 Aug; 103(2):233-8.
32. Kleindienst A, Harvey H, **Bullock R**, Colello R, Mc Ginn M. Enhanced hippocampal neurogenesis by intraventricular S100B infusion is associated with improved cognitive recovery after traumatic brain injury. *J Neurotrauma*. 2005 Jun;22(6):645-55
33. Kleindienst A, Toliaas C, Corwin FD, Muller C, Marmarou A, Fatorus P, **Bullock MR**. Assessment of cerebral S100B levels proton magnetic resonance after lateral fluid percussion injury in the rat. *J Neurosurg* 2005 June; 102(6):1115-21.
34. Kwon TH, Sun D, Daugherty WP, Spiess BD, **Bullock MR**. Effect of perfluorocarbons on brain oxygenation and ischemic damage in an acute subdural hematoma model in the rats. *J Neurosurg* 2005 Oct; 103, 724-730.
35. Mazzeo, A, **Bullock R**. Effect of bacterial meningitis complicating severe head trauma upon brain microdialysis and cerebral perfusion. A case report and review of the literature. *Neurocrit Care* 2005;2(3):282-7
36. Richardson RM, Broaddus WC, Holloway KL, Sun D, **Bullock MR**, Fillmore HL. Heterotypic neuronal differentiation of adult subependymal zone neuronal progenitor cells transplanted to the adult hippocampus. *Molecular and Cell Biology*. 2005 28, 674-682.
37. Sun D, Colello RJ, Daugherty WP, McGinn M, Harvey HB, Kwon TH, **Bullock MR**. Age-related cell proliferation and neuronal differentiation in the dentate gyrus in rats following traumatic brain injury. *J Neurotrauma*. 2005 Jan; 22 (1), 95-105.

38. Daugherty WP, Levasseur JE, Sun D, Rockswold GL, **Bullock MR**. Effects of hyperbaric oxygen therapy on cerebral oxygenation and mitochondrial function following moderate lateral fluid percussion injury in rat. *J. Neurosurgery*. 2004 Sep; 101 (3), 499-504.
39. Daugherty WP, Levasseur JE, Sun D, Spiess BD, **Bullock MR**. Perfluorocarbon emulsion improves cerebral oxygenation and mitochondrial function after fluid percussion brain injury in rats. *Neurosurgery*, 54(5):1223-30.
40. Dopenberg EMR, **Bullock R**. Clinical trials in severe human head injury: Lessons for the future. *Journal of Neurosurgical Anesthesiology*, 2004 Jan; 16(1):87-94.
41. Enriquez P, **Bullock R**. Molecular and cellular mechanisms in the Pathophysiology of severe head injury. *Current Pharmaceutical Design* 2004 10, 8-19.
42. Kleindienst, A., Rice, A.C., Harvey, H.B., Müller C., Hamm, R.J., Gaab, M.R., **Bullock, M.R.**, (2004). Intraventricular infusion of the neurotrophic protein S100B improves cognitive recovery after fluid percussion injury in the rat. *J. Neurotrauma*, 21(5):541-7.
43. McGinn M, Sun D, Schneider S, Alexander J, Colello RJ (2004). Intracerebral injection of EGF induced cell proliferative response in the CNS. *Brain Research*. 1007, 29-38.
44. Reinert M, Schaller B, Widmer HR, Seiler R, **Bullock R**. (2004). Influence of oxygen therapy on glucose-lactate metabolism after diffuse brain injury. *J Neurosurg* 101:323-329.
45. Rice A., **Bullock M.**, Shelton K. (2004). Chronic ethanol treatment transiently decreases adult neural progenitor cell proliferation. *Brain Research*, 1011(1):94-8.
46. Sun D, Newman TA, Perry VH, Weller RO (2004). Cytokine-induced enhancement of autoimmune inflammation in the brain and spinal cord: implications for multiple sclerosis. *J. Neuropathology and Applied Neurobiology*. 30, 374-384.
47. Toliaas, CM, Reinert M., Seiler R, Gilman C., Scharf A., **Bullock R**. (2004). Normobaric Hyperoxia improves cerebral metabolism and reduces ICP in severe head injury patients. A prospective, historical-cohort matched study. *J Neurosurgery* 101:435-444.
48. Alves OL, Zauner A, Clausen T, Levasseur J, Rice A, **Bullock RM**. (2003). Impairment of cerebral metabolism in a feline model: The tangible role of TBI, arterial hypoxia, and mitochondrial failure. Manuscript sent for publication. In submission *J Neurol. Research*.
49. Alves Doyle, Clausen T, Gilman C, **Bullock R**. (2003). Evaluation of Topiramate neuroprotective effect in severe TBI using microdialysis. *Ann NY Acad Sci*; 993:25-34. Discussion 48-53.
50. **Bullock R**. (2003). Letter *Neurosurgical Forum* - The role of 100% oxygen in ameliorating brain metabolism following TBI. *J Neurosurgery*, 1112-1113.
51. **Bullock MR**. (2003). Hyperoxia: good or bad: *J Neurosurg* 98(5):943-3.
52. **Bullock R**, Alves OL. (2003). Basal durotomy to prevent massive intraoperative traumatic brain swelling. Technical note. *Acta Neurochirurgica*, 145(7):583-586. Discussion 586.
53. **Bullock M**, (2003). Outcome measures for clinical trials in Neurotrauma. *Neurosurgical Focus*.

54. Di, X, Alves OL, **Bullock R.** (2003). Cytotoxic edema is independent of NMDA ion channel activation following MCA occlusion. *Neurol Research*; 25(4):329-334.
55. Jones EA, Sun D, Kobierski L, Symes AJ (2003). NFAT4 is expressed in primary astrocytes and activated by glutamate. *J. Neuroscience Research*. 72, 191-197.
56. Kwon TH, Chao DL, Malloy K, Sun D, Alessandri B, **Bullock MR** (2003). Tempol, a novel stable nitroxide, reduces brain damage and free radical production, after acute subdural hematoma in the rat. *J. Neurotrauma*. 20 (4), 337-345.
57. Rice, A.C., Khaldi, A., Harvey, H.B., Salman, N., White, F., Fillmore, H., **Bullock, M.R.**, (2003). Proliferation and neuronal differentiation of mitotically active cells following traumatic brain injury, *Exp Neurol*, 183:406-417.
58. Rice, AC, **Bullock, M.R.**, Shelton, K.L., (2003). Chronic ethanol treatment transiently reduces adult neural progenitor cell proliferation. *Neurol. Research*,
59. Thompson HJ, Pinto-Martin J, **Bullock MR.** (2003). Neurogenic fever after traumatic brain injury: an epidemiological study. *J Neurol Neurosurg Psychiatry*. 74(5):614-9.
60. Alessandri B, Reinert M, Young HF, **Bullock R.** (2000). Low extracellular glucose affects the neurochemical profile in severe head injured patients. *Acta Neurochir. Suppl.* 76, *Acta Neurochir Suppl.* 76:425-30., Springer-Verlag.
61. Alessandri B, Rice A, Levasseur J, DeFord M, Hamm, RJ, **Bullock M.** Cyclosporin A improves brain tissue oxygen consumption and learning/memory performance after lateral fluid percussion injury in rats. *Journal of Neurotrauma* 2002, 19:829-841.
62. Auner A, Daugherty, **Bullock**, Warner D, (2002). Brain oxygenation and energy metabolism: part I- biological function and pathophysiology. *Neurosurgery*. 51(2):289-301; discussion 302.
63. Broaddus WC, Holloway KL, Winters CJ, **Bullock MR**, Graham RS, Mathern BE, Ward JD, Young HF. (2002). Titanium miniplates or stainless steel wire for cranial fixation: a prospective randomized comparison. *J Neurosurg*. 96(2):244-7.
64. **Bullock M.** Review of "Regional Cerebrovascular and metabolic effects of hyper-ventilation after severe traumatic brain injury." *Journal of Neurosurgery*, Vol 96, January 2002.
65. **Bullock M**, Alves OL, Gilman CG, Ward JD. Recent advances in pediatric critical care – Advanced neuromonitoring for brain injury. *Journal of Critical Care Medicine*, 2002. In press.
66. Chirumamilla S, Sun D, **Bullock MR**, Colello RJ (2002). Traumatic brain injury induced cell proliferation in the adult mammalian CNS. *J. Neurotrauma*. 19(6):693-703.
67. DeFord SM, Wilson MS, Rice AC, Clausen T, Rice LK, Barabnova A, **Bullock R**, Hamm RJ. Repeated mild brain injuries result in cognitive impairment in B6C3F1 mice. *J. Neurotrauma*, 2002, 19:427-438.
68. Khaldi A, Chiueh CC, **Bullock MR**, Woodward JJ. (2002). The significance of nitric oxide production in the brain after injury. *Ann NY Acad Sci*. 962:53-9.

69. Narayan RK, Michel ME, **Bullock MR.**, et al. (2002). Clinical trials in head injury. *J. Neurotrauma*; 19(5):503-557
70. Reinert M, Alessandri B, Seiler R, **Bullock R.** Influence of inspired oxygen on glucose-lactate dynamics after subdural hematoma in the rat. *Neurol Res.* 2002 Sept; 24(6):601-606.
71. Rice, A.C., Zsoldos, R., Chen, T., Wilson, M.S., Alessandri, B., Hamm, R.J., **Bullock, M.R.**, (2002). Lactate Administration Attenuates Cognitive Deficits Following Traumatic Brain Injury, *Brain Res*, 928:156-159.
72. Soukup J, Zauner A, Doppenberg E, Menzel M, Gilman C, Young H, **Bullock R.** (2002) The importance of brain temperature in patients after head injury: relationship to intracranial pressure, CPP, CBF and outcome. *J Neurotrauma*; 19(5):559-571.
73. Soukup J, Zauner A, Doppenberg E, Menzel M, Gilman C, **Bullock R,** Young H. Relationship between brain temperature, brain chemistry and oxygen delivery after severe human head injury: the effect of mild hypothermia. *Neurological Research*, 2002; 24(2):161-168.
74. Zauner A, Daugherty WP, **Bullock R,** Warner DS. (2002). Brain oxygenation and energy metabolism: part I biological function and pathophysiology. *Neurosurgery* 51; 289-301.
75. Clausen T, **Bullock R.** Medical treatment and neuroprotection in traumatic brain injury. *Current Pharmaceutical Design*, 7, 1517-1532. 2001.
76. Clausen T, Zauner A, Levasseur JE, Zhu J, Rice AC, **Bullock R.** Induced mitochondrial failure in the feline brain: Implications for understanding acute post traumatic metabolic events. *Brain Research*, 2001, 908:35-48.
77. Khaldi A, Zauner A, Reinert M, Woodward JJ, **Bullock R.** Measurement of nitric oxide and brain tissue oxygen in patients after severe SAH. *Neurosurgery.* 2001; 49:126-131.
78. Valadka AB, Andrews BT, **Bullock MR.** (2001). How well do neurosurgeons care for trauma patients? A survey of the membership of the American Association for the Surgery of Trauma. *Neurosurgery.* 48(1):17-24.
79. Al-Samsam RH, Alessandri B, **Bullock R.** Extracellular N-acetyl-aspartate as a biochemical marker of the severity of neuronal damage following experimental acute traumatic brain injury. *J Neurotrauma.* 2000. Jan; 17(1):101-112.
80. Alessandri B, Reinert M, Young HF, **Bullock MR.** Low extracellular (ECF) glucose affects the neurochemical profile in severe head-injured patients. *Acta Neurochir Suppl.* 2000:76-425-30.
81. Alessandri B, al-Samsam R, Corwin F, Fatouros P, Young HF, **Bullock MR,** Acute and late changes in N-acetyl-aspartate following diffuse axonal injury in rats: an MRI spectroscopy and microdialysis study. *Neurol Res.* 2000 Jul; 22(7):705-7112.
82. **Bullock R.**, Chestnut R.M., Clifton G.L., Ghajar J., Marion D.W., Narayan R.K., Newell D.W., Pitts L.H., Rosner M.J., Walters B.C., Wilberger J.E. Part I: guidelines for the of severe traumatic brain injury. *Journal of Neurotrauma*, 17(6-7), 2000.
83. Chen T, Qian Y, Di X, Zhu J, **Bullock R.** Evidence for lactate uptake after rat fluid percussion brain injury. *Acta Neurochir. Suppl.* 76, 2000.

84. Chen T, Qian Y, Di X, Rice A, Zhu J, **Bullock R**. Glucose lactate dynamics after fluid percussion brain injury. *J Neurotrauma*, February, 2000.
85. Chen T, Qian Y, Rice A, Di X, Zhu J, **Bullock R**. Brain lactate uptake increases at the site of impact after traumatic brain injury. *Brain Research*, 2000.
86. Chen T, Qian Y, Alessandri B, Zhu J, Di X, **Bullock R**. 4CIN blocks lactate uptake into the injured brain. *J Neurotrauma*, 2000.
87. Di X, Goforth PB, **Bullock R**, Ellis E, Satin L. (2000). Mechanical injury alters volume activated ion channels in cortical astrocytes. *Acta Neurochir. [Suppl. 76]* - Springer Verlag, 81-86.
88. Fatouros PP, Heath DL, Beaumont A, Corwin FD, Signoretti S, al-Samsam RH, Alessandri B, Lazzarino P, Vagnozzi R, Tavazzi B, **Bullock R**, Marmarou A. Comparison of NAA measures by MRS and CPLC. *Acta Neurochir Suppl. 2000; 76:35-37.*
89. Levasseur JE, Alessandri B, Reinert M, **Bullock R**, Kontos HA. Fluid percussion injury transiently increases then decreases brain oxygen consumption in the rat. *J Neurotrauma. 2000 Jan; 17(1):101-112.*
90. Levasseur JE, Reinert M, Alessandri B, Chen T, Clausen T, **Bullock R**, Kontos HA. Combined treatment with oxygen and lactate improves mitochondrial respiration in rat brain after lateral fluid percussion injury. *J. Neurotrauma*, 2000.
91. Hoelper B.M., Reinert M.M., Zauner A., Doppenberg E., **Bullock R**. rCBF in hemorrhagic, non-hemorrhagic and mixed contusions after severe head injury and its effect on perilesional cerebral blood flow. *Acta Neurochir Suppl 2000; 76:21-5.*
92. Khaldi A, Beach W, Clausen T, **Bullock R**. Neurosurgical treatment of head injury in neurophysiology and neurogenic speech and language disorders. Vol. 10, 2 (2000) 16-20.
93. Marmarou A., Barzo P., Fatouros P., Yamamoto T., Doppenberg E., Muizelaar P., **Bullock R.**, Young H. (2000). Contribution of brain edema and blood volume to brain swelling in severely head injured patients. *J Neurosurg; 93(2):183-93.*
94. Menzel M, Doppenberg E, Zauner A, Soukup J, Hence D, Clausen T, Rieger A, **Bullock R**. Cerebral Oxygen Reactivity Determination – A simple test with prognostic influence. *Zentralblat Neurochir 2000; 61(4)181-187.* (German)
95. Reeves TM, Kao CQ, Phillips LL, **Bullock MR**, Povlishock JT. (2000). Presynaptic excitability changes following traumatic brain injury in the rat. *J Neurosci Res. 1:60(3):370-9.*
96. Reinert M., Khaldi A., Zauner A., Doppenberg E., Choi S., **Bullock R**. High level of extracellular potassium and its correlates after severe human head injury: relationship to high intracranial pressure. *J Neurosurg 93:810-817, 2000.*
97. Reinert M., Hoelper B., Doppenberg E., Zauner A., **Bullock R**. Substrate delivery and ionic balance disturbance after severe human head injury. *Acta Neurochir Suppl. 2000; 76:439-44.*
98. **Bullock R**, et al. Management and Prognosis of Severe Traumatic Brain Injury. *J Neurotrauma, Vol 17., 6-7, 2000.*

99. Reinert M.M., Soukup J., Zauner A., Doppenberg E., **Bullock R.** Spontaneous cerebral hypothermia after severe head injury: relation with brain chemistry and Cerebrovascular parameters. Springer-Verlag (2000) 85-97.
100. Alessandri B, Tusuchida E, **Bullock RM.** The neuroprotective effect of a new serotonin receptor agonist, BAY X3702, upon focal ischemic brain damage caused by acute subdural hematoma in the rat. *Brain Res.* 1999; 23:845(2):232-235.
101. Alessandri B, Doppenberg E, **Bullock R,** Woodward J, Choi S. Glucose and lactate metabolism after severe human head injury: influence of excitatory neurotransmitters and injury type. *Acta Neurochir Suppl (Wien).* 1999; 75:21-24.
102. Alessandri B, Doppenberg E, Zauner A, Woodward J, Choi S, **Bullock R.** Evidence for time-dependent glutamate-mediated glycolysis in head-injured patients: a microdialysis study. *Acta Neurochir Suppl (Wien)* 1999; 75:25-28.
103. **Bullock R.,** Merchant R., Carmack C., Doppenberg E., Shah E., Wilner K., Ko G., Williams G.A. (1999). An open label study CP – 101, 606 in subjects with severe traumatic brain injury for spontaneous intracerebral hemorrhage. *Ann NY Acad Sci.;* 890:51-8.
104. **Bullock M.R.,** Lyeth B.G., Muizelaar J.P. Current status of neuroprotection trials for traumatic brain injury: lessons for animal models and clinical studies. *Neurosurgery,* 45(2):207-220, 1999.
105. Butcher, S.P., **Bullock, R.,** Graham, D.I., and McCulloch, J.: Correlation between amino acid release and neuropathological outcome in rat striatum and cortex following middle cerebral artery occlusion. *Stroke* 21(l):1727-1733, 1999
106. Di X, Gordon J, **Bullock R.** Fluid percussion brain injury exacerbates glutamate-induced focal damage in the rat. *J. Neurotrauma,* 16(3):195-201, 1999.
107. Doppenberg EM, Rice MR, Alessandri B, Qian Y, Di X, **Bullock MR.** Reducing hemoglobin oxygen affinity does not increase hydroxyl radicals after acute subdural hematoma in the rat. *J. Neurotrauma.* 1999 Feb; 16(2):123.133.
108. Doppenberg R, Reinert M, Zauner A., Massie T.S., **Bullock R.,** (1999). Determinants of cerebral extracellular potassium after severe human head injury. *Acta Neurochir Suppl (Wien).* 75:31-4.
109. Marshall L.F. Failure of the competitive n-methyl-d-aspartate antagonist Selfotel (CGS19755) in the treatment of severe head injury: result of two phase III clinical trials. *Journal of Neurosurgery,* 91:737-743. 1999.
110. Mathew P, Gentleman D, **Bullock MR.** Brain monitoring in severe head injury: a practical guide. *Trauma,* 1:105-114, 1999.
111. Maas AIR, Steyerberg EW, Murray GD, **Bullock R,** Baethmann A, Marshall LF, Teasdale GM. Why Have Recent Trials of Neuroprotective Agents in Head Injury Failed to Show Convincing Efficacy? A Pragmatic Analysis and Theoretical Considerations. *Neurosurgery,* 44(6):1286-1298, 1999
112. Menzel M, Doppenberg EMR, Zauner A, Soukup J, Reinert MM, **Bullock R.** Increased inspired oxygen concentration as a factor in improved brain tissue oxygenation and tissue lactate levels after severe human

- head injury. *J. Neurosurg.* 91:1-10, 1999.
113. Menzel M, Doppenberg EM, Zauner A, Soukup J, Reinert MM, Clausen T, Brockenbrough PB, **Bullock R.** cerebral oxygenation in patients after severe head injury: monitoring and effects of arterial hyperoxia on cerebral blood flow, metabolism and intracranial pressure. *J Neurosurg Anesthesiol.* 1999; 11(4):240-51.
 114. Merchant RE, **Bullock MR,** Carmack CA, Shah AK, Wilner KD, Ko G, Williams SA. (1999). A double-blind, placebo-controlled study of the safety, tolerability and pharmacokinetics of CP-101-606 in patients with a mild or moderate traumatic brain injury. *Ann NY Acad Sci.*; 890:42-50.
 115. Morris G.F., **Bullock R.,** Marshall S.B., Marmarou A., Maas A. The Selfotel investigators, Doppenberg EMR, Rice MR, Alessandri, Qian Y, Di X, **Bullock R.** Reducing hemoglobin oxygen affinity does not increase hydroxyl radicals after acute subdural hematoma in the Rat. *J. Neurotrauma,* 16(2):123-133, 1999.
 116. Reinert MM, **Bullock R.** Clinical trials in head injury. *Neurological Research,* Jun 21(4):330-338, 1999.
 117. Ritter AM, Muizelaar JP, Barnes T, Choi S, Fatouros P, Ward J, **Bullock MR.** Brain stem blood flow, pupillary response, and outcome in patients with severe head injuries. *Neurosurgery* 44(5):941-948, 1999.
 118. Saggi BH, Bloomfield GL, Sugarman HJ, Blocher CR, Hull JP, Marmarou AP, **Bullock MR.** Treatment of intracranial hypertension using nonsurgical abdominal decompression. *The Journal of Trauma: Injury, Infection, and Critical Care.* 46(4):646-651, 1999.
 119. Stewart L., **Bullock R.,** Teasdale G.M., Wagstaff A. First observation of the safety and tolerability of a competitive antagonist to the glutamate NMDA Receptor (CGS19755) in patients with severe head injury. *Journal of Neurotrauma,* 16(9):43-850, 1999.
 120. Tsuchida E, Alessandri B, Corwin F, Fatouros, P, **Bullock R.** Detection of ultra-early brain damage after acute subdural hematoma in the rate by magnetic resonance imaging. *J. Neurotrauma* 1999 July: 15(7):595-60.
 121. Watson JC, Myseros JS, **Bullock MR.** (1999). True fungal mycotic aneurysm of the basilar artery: a clinic and surgical dilemma. *Cerebrovascular Disease.* 9(1):50-3.
 122. Yamamoto T., Rossi S., Stiefel M., Doppenberg E., Zauner A., **Bullock R.,** Marmarou A. CSF and ECF glutamate concentration in head injured patients. *Acta Neurochir Suppl. (Wien).* 1999; 75:17-9.
 123. Alessandri B., Doppenberg E., Zauner A., Woodward J., Young H.F., **Bullock R.** Cortical Extracellular sodium transients after human head injury: an indicator of secondary brain damage? *Acta Neurochir Suppl (Wien).* 1998; 71:237-40.
 124. R. **Bullock,** A. Zauner, JJ. Woodward, J. Myseros, S. Choi, J. Ward, A. Marmarou, HF Young: Factors affecting excitatory amino acid release following severe human head injury. *J. Neurosurgery,* 89:507-518, 1998.
 125. Doppenberg EMR, Di X, Rice M, **Bullock R,** and Young HF, 1997. The effect of increased arterial oxygen tension on cerebral free radical production in the rat subdural hematoma model. *Neurosurgery,* 1998.
 126. Doppenberg EMR, Rice MR, Di X, Young HF, Woodward JJ, **Bullock R.** Increased Free Radical Production Due to Subdural Hematoma in the Rat: Effect of Increased Inspired Oxygen Fraction. *J. Neurotrauma,* 15(5):337-347, 1998.

127. Doppenberg EMR, Zauner A, **Bullock R.**, Ward J, Marmarou A, Fatouros P., Young H.F.: Correlations between brain pO₂, pCO₂, pH and cerebral blood flow-a better way of monitoring the severely injured brain? *Surgical Neurology*, 49:650-654, 1998.
128. Doppenberg EMR, Zauner A, Watson J, **Bullock R.**: Determination of the ischemic threshold for brain oxygen tension. *Acta Neurochirurgica [Suppl.]* 71:166-169, 1998.
129. Gupta AK, **Bullock MR.** (1998). Monitoring the injured brain in intensive care: present and future. *Hospital Med.* 59(9):704-13.
130. Koura S.S., Doppenberg E.M., Marmarou A., Choi S., Young H.F., **Bullock R.** Relationship between excitatory amino acid release and outcome after severe human head injury. *Acta Neurochir Suppl (Wien)*. 1998; 71:244-6.
131. Landolt H, Fujisawa H, Graham DI, Maxwell W, **Bullock R.** Reproducible acute glutamate - induced focal lesions in the normal rat brain using microdialysis. *J. Neuropathology and Experimental Neurology*, 1998.
132. Loudon WG, Abdolvahabi R, **Bullock R.** The Process of Acute Head Injury: Assessment and Management. *J. Trauma*, 1998.
133. Marmarou A., Fatouros P., **Bullock R.**, Barzo P., Yamamoto T., Bandoh K., Yoshihara M., Doppenberg E., Young H. Identification of the compartment responsible for traumatic brain swelling using simultaneous measures of blood volume, brain tissue water and diffusion weighted imaging in head injured patients. *Acta Neurochir Suppl (Wien)* 71:382-385, 1998.
134. M. Menzel, E. Doppenberg, A. Zauner, R. **Bullock**, J. Soukup, HF Young, A. Marmarou, P. Brockenborugh, C. Henning: Increased inspired oxygen concentration in patients after severe head injury-effects on brain tissue oxygenation and tissue lactate. *J. Neurosurgery*, 1998.
135. Newell DM, Temkin RN, **Bullock R**, Choi S. (1998). Corticosteroids in acute traumatic brain injury. *MGJ* 316(7128):396.
136. Reproducible peracute glutamate-induced focal lesions of the normal rat brain using microdialysis. *Journal of Clinical Neurosciences*, 5(2):193-202, 1998.
137. Watson J.C., Bannan P.E., **Bullock M.R.** The feasibility of screening for unruptured aneurysms. *Journal of Neurovascular Disease*, 3(3):1-11, 1998.
138. Zauner, E. Doppenberg, J. Soukup, M. Menzel, HF Young, **Bullock R.** Extended neuromonitoring: new therapeutic opportunities? *Acta Neurochirurgica*, 1998.
139. Zauner, E. Doppenberg, J. Soukup, M. Menzel, Young, HF, **Bullock R.** Extended neuromonitoring: new therapeutic opportunities. *J. Neurosurgery*, 1998.
140. **Bullock R.**, Doppenberg E., Zauner A., Young H.F. New Techniques for multi-modality monitoring of the injured brain: Opportunities for therapy? *Jap Journal Int Crit Care Med.* 9(11), 1295-1300, 1997.
141. Di X, **Bullock R**, Watson J, Fatouros P, Chenard B, White F, Corwin F. Effect of CP101, 606, a novel NR2B subunit antagonist of the N-Methyl-D-Aspartate Receptor, on the volume of ischemic brain damage and cytotoxic brain edema after middle cerebral artery occlusion in the feline brain. *Stroke.* 28:2244-2251,

- 1997.
142. Di, X., Rice, M., Choi, S., Fatouros, P. and **Bullock, R.** 1997. Diffusion-Weighted [DWI], an in vivo a surrogate marker A of neuroprotective effect for ischemic brain damage. *J. Neurovas. Dis.*
 143. Doppenberg EMR, Watson JC, Broaddus WC, Holloway KL, Young HF, **Bullock R.** Intraoperative monitoring of substrate delivery during aneurysm and hematoma surgery: initial experience in 16 patients. *J. Neurosurg* 87:809-816, 1997.
 144. Doppenberg, E., Choi S., **Bullock, R.** Clinical trials in traumatic brain injury: what can we learn from previous studies? *Annals of N.Y. Acad. Sci.*, 825:305-322, 1997.
 145. Doppenberg E, **Bullock, R.** Clinical neuroprotection trials in severe traumatic brain injury: Lessons from previous studies. *J. Neurotrauma* 14:71-80, 1997.
 146. Doppenberg EMR, Watson JC, **Bullock, R.**, Gerber MJ, Zauner A, Abraham DJ. The Rationale for and Effects of Oxygen Delivery Enhancement to Ischemic Brain in a Feline Model of Human Stroke. *Annals of the New York Academy of Sciences*, Vol. 825, 1997
 147. Koizumi, H., H. Fujisawa. H. Ito, T. Maekawa, X. Di and **Bullock, R.** Effects of mild hypothermia on cerebral blood flow-independent changes in cortical extracellular levels of amino acids c contusion trauma in the rat. *Brain Research.* 747:304-312, 1997
 148. Reinert M., Doppenberg E.M.R., Zauner A., Massie T., **Bullock, R.** Determinants of cerebral extracellular potassium after severe human head injury, proceedings of ISSM II 1997, Williamsburg, Springer Verlag.
 149. Tsuchida E, Rice M, **Bullock, R.** The Neuroprotective Effect of the Forebrain-Selective NMDA Antagonist CP101, 606 upon Focal Ischemic Brain Damage Caused by Acute Subdural Hematoma in the Rat. *Journal of Neurotrauma*, 14:409-417, 1997.
 150. Watson JC, Doppenberg E, **Bullock, R.**, Zauner A, Rice M, Abraham D, Young H. Effect of allosteric modification of hemoglobin on brain oxygen and infarct size, in a feline model of stroke. *Stroke* 28:1624-1630, 1997.
 151. Zauner A., Doppenberg E.M., Woodward J.J., Choi S.C., Young H.F., **Bullock, R.** Continuous monitoring of cerebral substrate delivery and clearance: initial experience in 24 patients with severe acute brain injuries. *Neurosurgery.* 1997 Nov; 41 (5):1082-91; discussion 1091-3.
 152. Zauner A, Doppenberg E, Woodward JJ, Allen C, Jebraili S, Young HF, **Bullock, R.** Multiparametric continuous monitoring of brain metabolism and substrate delivery in neurosurgical patients. *Neurological Research*, Vol. 19:265-273, 1997.
 153. **Bullock, R.**, Chesnut RM, Clifton G, Ghajar J, Marion DW, Narayan RK, Newell DW, Pitts LH, Rosner MJ, Wilberger JW. Guidelines for the Management of Severe Head Injury. *European Journal of Emergency Medicine*, 3:109-127, 1996.
 154. Di X, Lyeth BG, Hamm RJ, **Bullock, R.** Voltage-Dependent Na⁺/K⁺ Ion Channel Blockade Fails to Ameliorate Behavioral Deficits after Traumatic Brain Injury in the Rat. *Journal of Neurotrauma*, 13:497-504, 1996.
 155. Di X, **Bullock, R.** Effect of the Novel high infirmity Glycine site NMDA antagonist ACEA 1021 upon 125Iodo

- MK801 Binding after subdural hematoma in the rat. An in vivo Autoradiographic Study. *J. Neurosurg.*, 85: 655-661, 1996.
156. Di X, Harpold T, Watson JC, **Bullock, MR.** Excitotoxic Damage in Neurotrauma: Fact or Fiction. *Restorative Neurology and Neuroscience*, 9: 231-241, 1996.
 157. Fujisawa H, Landolt H, and **Bullock, R.** Patterns of increased glucose use following extracellular infusion of glutamate - an autoradiographic study. *J. Neurotrauma.* 13:245-253, 1996.
 158. Guidelines for the Management of severe head injury. *Journal of Neurotrauma*, Volume 13(11), 1996.
 159. Holloway KL, Barnes T, Choi S, **Bullock, R.**, Eisenberg H, Marshall L, Jane JA, Ward JD, Marmarou A. Ventriculostomy Infections: The effect of Duration of Monitoring and Catheter Exchange, in 584 Patients. *J. Neurosurg.* 85:419-424, 1996.
 160. Mathew P, **Bullock, R.**, Graham DI, Maxwell W, Teasdale G, McCulloch J. A new experimental model of contusion in the rat: Histopathological analysis and temporal patterns of CBF disturbances. *J. Neurosurg.* 85: 860-870, 1996.
 161. Ritter AM, Kubal W, Luo V, **Bullock, R.** Intracellular Presentation of a Cystic Optic Chiasm Fibrillary Astrocytoma. *Pediatric Neurosurgery*, 1996 Nov; 25(5):265-8.
 162. Tschuida E, Harms J, Woodward J, and **Bullock, R.** A use-dependent sodium channel antagonist 619C89 reduces ischemic brain damage, and glutamate release, after acute subdural hematoma in the rat. *J. Neurosurg.* 85: 104-111, 1996.
 163. Zauner A., **Bullock, R.**, Kuta A.J., Woodward J.J., Young H.F. Glutamate release and cerebral blood flow after severe human head injury. *Acta Neurochirurgica (supplement)*, 67:40-44, 1996.
 164. Bloomfield G.L, Dalton J.M., Sugarman H.J., Ridings P.C., DeMaria E.J., **Bullock, R.** Treatment of Increasing intracranial pressure secondary to the acute abdominal compartment syndrome in a patient with combined abdominal and head trauma. *Journal of Trauma: Injury, Infection, and Critical Care*, 39(6): 1168-1170, 1995.
 165. **Bullock, R.** Mannitol and other Diuretics in Severe Neurotrauma. *New Horizons*, 3:448-452, 1995, Head Trauma.
 166. **Bullock R,** Zauner A, Woodward JJ, Young HF. Massive Persistent Release of Excitatory Amino Acids following Human Occlusive Stroke. *Stroke*, 26:277-281, 1995.
 167. **Bullock R.** Strategies for Neuroprotection with glutamate antagonists: extrapolating from evidence from the first stroke and head injury studies. *Annals of New York Academy of Sciences: Neuroprotective Agents*, 765:27-278, 1995.
 168. **Bullock R.,** Zauner A., Myseros J.S., Marmarou A., Woodward J.J, Young H.F. Evidence for prolonged release of excitatory amino acids in severe human head trauma: relationship to clinical events. *Annals of the New York Academy of Sciences: Neuroprotective Agents*, 765:290-297, 1995.
 169. Kuroda, Y., and **Bullock, R.** Pathophysiology of acute subdural hematoma. *Jap. J. Neurosurg.*, 82:966-971, 1995.

170. Myseros J.S., **Bullock R.** The rationale for glutamate antagonists in the treatment of traumatic brain Injury. *Annals of the New York Academy of Sciences: Neuroprotective Agents*, 765:262-271, 1995.
171. Sakas DE, **Bullock MR**, Patterson J. Hadley D, Wyper DJ, Teasdale GM. (1995). Focal cerebral hyperemia after focal head injury in humans: a benign phenomenon? *J Neurosurg.* 83(2):277-84.
172. Sakas DE, **Bullock MR**, Teasdale GM. (1995). One-year outcome following craniotomy for traumatic hematoma in patients with fixed dilated pupils. *J Neurosurg.* 82(6):961-5.
173. Schroeder, M.L., Muizelaar, J.P., **Bullock, R.**, Povlishock, J.T., and Salvant, J.B.: Focal ischemia due to traumatic contusions documented by stable Xenon CT and ultrastructural studies. *J. Neurosurg.*, 82:966-971, 1995.
174. Tsuchida, E., and **Bullock, R.** The effect of the glycine site specific N methyl D aspartate antagonist, ACEA 1021, on ischemic brain damage caused by subdural hematoma in the rat. *J. Neurotrauma*, 12:279-287, 1995
175. Zauner A, **Bullock R.** The Role of Excitatory Amino Acids in Severe Brain Trauma: opportunities for Therapy: A Review. *J. Neurotrauma*, 12:547-554, 1995.
176. Zauner A, **Bullock R**, Di X, Young H. Brain Oxygen, CO2 PH and Temperature Monitoring: Evaluation in the Feline Brain. *Neurosurgery* 37:1168-1177, 1995.
177. **Bullock, R.**, Graham D.I., Swanson S., McCulloch J. Neuroprotective effect of the AMPA receptor antagonist LY-293558 in focal cerebral ischemia in the cat. *Journal of Cerebral Blood Flow and Metabolism*, 14(3):66-471, 1994.
178. S. Choi, C.C., Barnes, I.Y., **Bullock, R.**, Germanson, I.A., and Marmarou, A.: Longitudinal profile of outcomes in severe head injury. *J. Neurosurg.* 81:169-173, 1994.
179. Kuroda Y., Fujisawa H., Strebel S., Graham D.I., **Bullock, R.** Effect of neuroprotective: n-methyl-d-aspartate antagonist on increased intracranial pressure: studies in the rat acute subdural hematoma model. *Neurosurgery*, 35(1):106-112, 1994.
180. Maxwell W.L., **Bullock, R.**, Landholt H., Fujisawa H. Massive astrocytic swelling in response to extracellular glutamate – a possible mechanism for post-traumatic brain swelling. *Acta Neurochirurgica (supplement)*, 60:465-467, 1994
181. **Bullock, R.** Opportunities for neuroprotective drugs in clinical management of head injury. *J. Emerg. Med.* 11:23-30, 1993.
182. **Bullock, R.** Pathophysiological alterations in the central nervous system due to trauma. *Schweiz Med. Wschr.* 123:449-458, 1993.
183. **Bullock, R.**, Muizelaar J.P., Young H. F. Experience with the free radical scavenging agent PEG-Superoxide dismutase in severe human head injury: a phase II placebo-controlled Trial. *Spektrum der Neurorehabilitation*, 66-70, 1993.
184. **Bullock, R.**, Stewart, L., Raffety, C., and Teasdale, G.M.: Continuous monitoring of jugular bulb oxygen saturation and the effect of drugs acting on cerebral metabolism. *Acta Neurochir.* 59(Suppl):113-118, 1993.

185. Fujisawa, H., **Bullock, R.**, McCulloch, J., Browne, S., and McKay, K.: Pharmacological modification of glutamate neurotoxicity, in vivo. *Brain Res.* 629:73-78, 1993.
186. Grosset, D., Straiton, S., McDonald, I., Cockburn, M., and **Bullock, R.** Use of TCD sonography to predict development of a delayed ischemic deficit after subarachnoid hemorrhage. *J. Neurosurg.* 78:183-187, 1993.
187. Grosset, D., Straiton, J., MacDonald, I., and **Bullock, R.** Angiographic and Doppler diagnosis of cerebral artery vasospasm following subarachnoid hemorrhage. *Br. J. Neurosurg.* 7:291-298, 1993.
188. Kuroda, Y., Dewar, D., and **Bullock, R.** Early changes in second messenger but not receptor binding sites after acute subdural hematoma; an in vitro autoradiographic study. *J. Neurotrauma* 10(1):47-55, 1993.
189. Kuroda, Y., Strebel, S., Rafferty, C., and **Bullock, R.** Neuroprotective doses N-Methyl-D-Aspartate receptor antagonists profoundly reduce the mean alveolar anesthetic concentration (MAAC) for isoflurane in rats. *Anesth. Anal.* 77:795-800, 1993.
190. Mathew, P., Oluoch-Olunya, D.L., Condon, B.R., and **Bullock, R.** Acute subdural hematoma in the conscious patient: Outcome with initial non-operative management. *Acta Neurochir. (Wien)* 121:100-108, 1993.
191. **Bullock, R.** Introducing NMDA antagonists into clinical practice: Why head injury trials? A review. *Brit. J. Clin. Pharmacol.* 34:396-401, 1992.
192. **Bullock, R.**, and Fujisawa, H. The role of glutamate antagonists for the treatment of CNS injury. *J. Neurotrauma.* 9(2):443-462, 1992.
193. **Bullock, R.**, Kuroda, Y., Teasdale, G.M., and McCulloch, J.: Prevention of post-traumatic excitotoxic brain damage with NMDA antagonist drugs-A new strategy for the nineties. *Acta Neurochir.*55 (Suppl):49-55, 1992.
194. **Bullock, R.**, Sakas, D., Patterson, J., Wyper, D., Hadley, D., Maxwell, W., and Teasdale, G.M.: Early post-traumatic cerebral blood flow mapping: Correlation with structural damage after focal injury. *Acta Neurochir.* 55(Suppl):14-17, 1992.
195. **Bullock, R.**, Butcher S., Graham D., Teasdale G. Excitatory amino acid release after focal cerebral ischemia: infarct volume determines EAA release. *The Role of Neurotransmitters in Brain Injury, Acta Neurochir.* 55(Suppl): 19-21, 1992.
196. Butcher S.P, **Bullock R.**, Graham D.I., McCulloch J. Correlation between amino acid release and neuropathologic outcome in rat brain following middle cerebral artery occlusion. *Stroke*, 23(5): 1727-1733, 1992.
197. Dopperberg E.M.R., de Ridder R.M.S., van Leeuwen M., Moreira Pereira Ramos L., Tulleken C.A.F., Intra-operative echografie bij Neurochirurgie. *Ultrasonoor Bulletin* 20:1-6, 1992.
198. Grosset, D.G., Straiton, J., Du Trevou, M., and **Bullock, R.** Prediction of symptomatic vasospasm after subarachnoid hemorrhage by rapidly increasing transcranial Doppler velocity and cerebral blood flow change. *Stroke* 23:674-679, 1992.
199. Inglis, F.M., Kuroda, Y., and **Bullock, R.** Glucose hypermetabolism after acute subdural hematoma is

- ameliorated by a competitive NMDA antagonist. *J. Neurotrauma* 9:75-84, 1992.
200. Kuroda, Y., and **Bullock, R.** Failure of cerebral blood flow - Metabolism coupling after acute subdural hematoma in the rat. *Neurosurgery* 31(6):1062-1071, 1992.
 201. Kuroda, Y., Inglis, F.M., Miller, J.D., McCulloch, J., Graham, D.I., and **Bullock, R.** Transient glucose hypermetabolism after acute subdural hematoma in the rat. *J. Neurosurg.* 76:471-477, 1992.
 202. Kuroda Y., Dewar D., **Bullock R.** Increase phorbol ester binding and decreased forskolin binding in ischemic cortex after subdural hematoma in the rat: an in vitro autoradiographic study. In: *The Role of Neurotransmitters in Brain Injury*, 241-246, 1992.
 203. Kuroda, Y., and **Bullock, R.** Local cerebral blood flow mapping before and after removal of acute subdural hematoma in the rat. *Neurosurg.* 30(5):687-691, 1992.
 204. Meddings, R., Scott, R., **Bullock, R.**, French, D.A., Hide, T.A.H., and Gorham, S.D. Collagen vicryl - A new dural prosthesis. *Acta Neurochir.* 117:53-58, 1992.
 205. **Bullock, R.**, Maxwell, W.L., Graham, D.I., Teasdale, G.M., and Adams, J.H. Glial swelling following human cerebral contusion: an ultrastructural study. *J. Neurol. Neurosurg. Psychiatry.* 54:427-434, 1991.
 206. **Bullock, R.**, Patterson, J., Park, C., McCulloch, J., and Wyper, D. Evaluation of 99mTc hexamine propylene amine oxime cerebral blood flow mapping after acute focal ischemia in the rat. *Stroke* 22:1284-1290, 1991.
 207. **Bullock, R.**, Butcher, S.P., Chen, M.-H., Kendall, L., and McCulloch, J. Correlation of the extracellular glutamate concentration with extent of blood flow reduction after subdural hematoma in the rat. *J. Neurosurg.*74:794-802, 1991.
 208. Chen, M.H., **Bullock, R.**, Graham, D.I., Frey, P., Lowe, D., and McCulloch, J. Evaluation of a competitive NMDA antagonist (D-CPP-ene) in feline focal cerebral ischemia. *Ann. Neurol.* 30:62-70, 1991.
 209. Chen, M.H., **Bullock, R.**, Graham, D.I., Miller, J.D., and McCulloch, J. Ischemic neuronal damage after acute subdural hematoma in the rat: Effects of pretreatment with a glutamate antagonist. *J. Neurosurg.* 74:944-950, 1991.
 210. du Trevou, M., **Bullock, R.**, Teasdale, E., and Quinn, R.O. False aneurysms of the carotid tree due to unsuspected penetrating injury of the head and neck. *Injury* 22(3):237-239, 1991.
 211. Taylor, B., Harries, P., and **Bullock, R.** Factors affecting outcome after surgery for intracranial aneurysm in Glasgow. *Brit. J. Neurosurg.* 5:575-584, 1991.
 212. **Bullock, R.**, Golek, J., and Blake, G. Traumatic intracranial hematoma: which patients should undergo surgical evacuation? CT scan features and ICP monitoring as a basis for decision-making. *Clinical Digest Series (Review).*Psychiatry Digest, 1990.
 213. **Bullock, R.**, McCulloch, J., Graham, D.I., Lowe, D., Chen, M.H., and Teasdale, G.M. Focal ischemic damage is reduced by D-CPP-ene: Studies in two animal models. *Stroke* 21(Suppl III) 32-36, 1990.
 214. **Bullock, R.**, and Teasdale, G.M. ABC of major trauma - Head Injury I and II. *Brit. Med. J.* 300:1515-1518, and 1576-1579, 1990.

215. **Bullock, R.**, Hanneman, C.O., Murray, L., and Teasdale, G.M. Recurrent hematomas following craniotomy for traumatic intracranial mass. *J. Neurosurg.* 72:9-14, 1990.
216. **Bullock, R.**, Graham, D.I., Chen, M.-H., Lowe, D., and McCulloch, J. Focal cerebral ischemia in the cat Pretreatment with a competitive NMDA receptor antagonist, D-CPP-ene. *J. Cereb. Blood Flow Metab.* 10(5):668-674, 1990.
217. Graham, D.I., **Bullock, R.**, Chen, M.-H., Lowe, D., and McCulloch, J. Focal cerebral ischemia in the cat: Pretreatment with the competitive N-methyl-D-aspartate receptor antagonist, D-CPP-ene (SDZEEA494). *J. Neurol Sci.* 237:137, 1990.
218. Miller, J.D., **Bullock, R.**, Graham, D.I., Chen, M.-H., and Teasdale, G.M. Ischemic brain damage in a model of acute subdural hematoma. *Neurosurgery* 27(3):433-439, 1990.
219. Spencer, R.F., and **Bullock, R.** The effect of spasticity due to a brain lesion on fracture healing a study using an animal model. *J. Orthop. Res.* 8:646-650, 1990.
220. **Bullock, R.**, Golek, J., and Blake, G. Traumatic intracerebral hematoma - which patients should undergo surgical evacuation? CT scan features and ICP monitoring as a basis for decision making. *Surg. Neurol.* 32:181-187, 1989.
221. **Bullock, R.**, van Dellen J.R., Ketelbey W., Reinach S.G. A double-blind placebo-controlled trial of preoperative prophylactic antibiotics for elective neurosurgery. *Journal of Neurosurgery*, 69:687-691, 1989.
222. **Bullock, R.**, van Dellen, J.R., Ketelbey, W., and Reinach, S.G. A double-blind placebo controlled trial of peri-operative prophylactic antibiotics for elective neurosurgery. *J. Neurosurg.* 69:687-691, 1988.
223. **Bullock, R.**, Du Trevou, M.D., van Dellen, J.R., Nel, J.P., and McKeown, C.P. Prevention of death from head injury in Natal. *S. Afr. Med. J.* May 7; 73(9):523-527, 1988.
224. **Bullock, R.**, Brock-Utne, J., van Dellen, J.R., and Blake, G. Intracranial hemorrhage in a primate model. Effect on regional cerebral blood flow. *Surg. Neurol.* 29:101-107, 1988.
225. **Bullock, R.**, Todd, N.V., Easton, J., and Hadley, D. Isolated central respiratory failure due to Arnold Chiari malformation and syringomyelia. *Brit. Med. J.* 297:1448-1449, 1988.
226. Cosnett, J.E., Moodley, M., Bill, P.L.A., and **Bullock, R.** Operculum syndrome from brain abscess in a left hander. *J. Neurol. Neurosurg. Psychiatr.* 55(2):307, 1988. (Letter)
227. Richards, A.M., Graham, D.I., and **Bullock, R.** Clinicopathological study of neurological complications in hypertensive disorders of pregnancy. *Obstet. Gynecology. Survey* 43-44, 1988.
228. Wiedmann, K.D., Patterson, J., Hadley, D.M., Teasdale, E., Statham, P., Wilson, J.T.L., **Bullock, R.**, Brooks, D.N., and Teasdale, G.M. Correlates of focal lesions in closed head injury: Distribution of cerebral blood flow and neuropsychological performance. *J. Clin. Exp. Neuropsychol.* 11(1):58, 1988.
229. **Bullock, R.** A long-bladed Cloward retractor for transoral surgery. *J. Royal Coll. Surg. Edin.* 32:5, 1987.
230. **Bullock, R.** Althesin in the management of raised intracranial pressure following head injury. *J. Neurosurg.* 66:948-949, 1987. (Letter)

231. du Trevou, M.D., **Bullock, R.**, van Dellen, J.R., Osborne, I., Blake, G., and Barlow, J. Regional cerebral blood flow determination by computed tomography and Xenon gas inhalation after severe head injury. *S. Afr. Med. J.* 25:95-98, 1987.
232. Richards, A.M., Moodley, J., **Bullock, R.**, and Downing, J.W. Maternal deaths from neurological complications of hypertensive crises in pregnancy. *S.Afr. Med. J.* 25:95-98, 1987.
233. Richards, A.M., Moodley, J., **Bullock, R.**, and Downing, J.W. Maternal mortality from neurological complications of eclampsia. *S. Afr. Med. J.* 71:487-490, 1987.
234. Richards, A.M., Moodley, J., Graham, D.I., and **Bullock, R.** Active management of the unconscious eclamptic patients. *Obstet. Gynecology. Survey* 42:233-235, 1987.
235. van Dellen, J.R., **Bullock, R.**, and Postma, T. Cerebellar abscess. The impact of CT scanning. *Neurosurgery* 21:547-550, 1987.
236. **Bullock, R.**, van Dellen, J.R., Campbell, D., and Osborne, I.: Experience with Althesin in the management of severe raised intracranial pressure after head injury. *J. Neurosurg.* 64:414-419, 1986.
237. Richards, A., **Bullock, R.**, Teasdale, G.M., and Thomson, G.H. Fertility and pregnancy after operation for a prolactinoma. *Br. J. Obstet. Gynecology.* 93:495-502, 1986.
238. Richards, A.M., Moodley, J., Graham, D.I., and **Bullock, R.** Active management of the unconscious eclamptic patient. *Brit. J. Obstet. Gynecol.* 93:554-562, 1986.
239. Moodley, M., and **Bullock, R.** Severe neurological sequelae following childhood bacterial meningitis. A review. *So. Afr. Med. J.* 68(8):566-570, 1985.
240. **Bullock, R.**, Smith, R., Favier, J., du Trevou, M., and Blake, G. Brain specific gravity and CT scan density measurements after human head injury. *J. Neurosurg.* 63:64-68, 1985.
241. **Bullock, R.**, and van Dellen, J.R. The role of cerebrospinal fluid shunting in tuberculous meningitis. In: Matsumoto, S. (Ed.), *Yearbook of Hydrocephalus*, 1985.
242. **Bullock, R.**, Smith, R., van Dellen, J.R. Non-operative management of extradural hematoma. *Neurosurgery* 16(5):602-606, 1985.
243. **Bullock, R.**, Mendelow, A.D., Bone, I., Patterson, J., McLeod, W., and Allardyce, G. Cerebral blood flow and CO₂ responsiveness as an indicator of collateral reserve capacity in patients with carotid artery disease. *Br. J. Surg.* 72:348-351, 1985.
244. Gordon, D., Richards, A., **Bullock, R.**, Cohen, H.N., Semple, C.G., Beastall, G.H., and Teasdale, G.M. Prolactin dynamics and tumor size in the prediction of surgical outcome for prolactinoma. *Quarterly J. Med. (New Series)* 54(214):141-151, 1985.
245. **Bullock, R.** Pre-hospital care of head injured patients. *Trauma* 1(1):48054, 1984.
246. **Bullock, R.**, Mendelow, A.D., Teasdale, G.M., and Graham, D.I.: Intracranial hemorrhage Induced at arterial pressure in the rat. Part I. Description of technique, ICP changes and neuropathological findings. *Neurol. Res.* 6:184-188, 1984.

247. **Bullock, R.**, Mendelow, A.D., Patterson, J., and Bone, I.: Cerebral blood flow measurement as an indicator of the hemodynamic severity of carotid artery disease in man. *So. Afr. Med. J.* 65:429-431, 1984.
248. Mendelow, A.D., **Bullock, R.**, Teasdale, G.M., Graham, D.I., and McCulloch, J.: Intracranial hemorrhage induced at arterial pressure in the rat. Part II. Short-term changes in local cerebral blood flow measured by auto-radiography. *Neurol. Res.* 6:189-193, 1984.
249. Mendelow, A.D., **Bullock, R.**, Graham, D.I., McCulloch, J., and Teasdale, G.M.: Autoradiographic capture of the initial ischemic insult produced by intracerebral hemorrhage. *Brit. J. Surg.* 70:170, 1984.
250. **Bullock, R.**, Teasdale, G.M., and Richards, A.M.: Results of surgery for hyperprolactinaemic. *Scottish Med. J.* (2):85, 1983.
251. **Bullock, R.**, van Dellen, J.R., and Fuller, G.A.G.: The use of antibiotics in the control of post-operative neurosurgical infection. A prospective trial. *Afr. J. Neurol. Sci.* 2(4), 1983.
252. **Bullock, R.**, and van Dellen, J.R. Chronic extradural hematoma. *Surg. Neurol.* 18:300-302, 1982.
253. **Bullock, R.**, and van Dellen, J.R. Rupture of bacterial intracranial aneurysm following replacement of cardiac valves. *Surg. Neurol.* 17:1-11, 1982.
254. **Bullock, R.**, and Welshman, M. Diagnostic and prognostic features of tuberculous meningitis on CT scanning. *J. Neurol. Neurosurg. Psychiatry* 45:1098-1101, 1982.
255. **Bullock, R.**, and van Dellen, J.R. The role of cerebrospinal fluid shunting in tuberculous meningitis. *Surg. Neurol.* 18:274-277, 1982.
256. **Bullock, R.**, van Dellen, J.R., and ven den Heever, C.M. Intracranial mycotic aneurysms. A review of nine cases. *So. Afr. Med. J.* 60:970, 1981.
257. **Bullock, R.** Unusual presentation of pyogenic spinal epidural abscess. *So. Afr. Med. J.* 45:340, 1981.
258. Lyons NF, **Bullock MR.**, and Gelfand, M. Kleinfeltters Syndrome in Africa. *Central Afr. J. Med.* 1977 Feb; 23(2):32-5.
259. **Bullock, R.**, and Gelfand, M. Pre-adolescent resistant rickets in Africa. A probable new syndrome. *Central Afr. J. Med.* 23:217-219, 1977.
260. **Bullock, R.**, and Cmelik, S. The composition of dietary lipids in Central Africa. *Central Afr. J. Med.*, 1972.

19. OTHER WORKS, PUBLICATIONS AND ABSTRACTS:

20. OTHER WORKS ACCEPTED FOR PUBLICATON:

PROFESSIONAL

21. CURRENT FUNDED RESEARCH:

NIH NINDS - RO1 NS061860-01

Dr. Ramon Diaz-Arastia, PI
Phase II, randomized controlled trial of brain tissue oxygen monitoring. (BOOST trial)
(U of M sub award, total \$235,000)
Funded: 12/01/2009-11/30/2012

CDMRP award PT074614

Dr. Frank Tortella, PI
Treatment of Traumatic Brain Injury using the neuroprotectant NNZ2566.
Funded 2010-2014
(Miami subcontract for approx \$880,000 over 4 years)

NIH NINDS - RO1 NS047444-01

Brain Repair by Endogenous Stem Cells after Trauma
Funded May 2007
Transferred to a substitute PI, at VCU (final subcontracting under review at present)

A total of 5 other grant applications submitted, not funded (details available upon request)

SUBMITTED:

NIH NINDS

Hyperoxia Therapy in TBI
R01int application with U Penn-Dr. P Le Roux

PAST AWARDS:

Program Project Grant NSPO112587 year 27

Mitochondrial Dysfunction in Severe Head Injury
2001-2006
Total income generated - \$6.5 Million

Virginia Commonwealth Neurotrauma Fund

The role of Endogenous Stem Cells, in Traumatic Brain Injury in the Rat
2002-2004
Total income generated - \$0.45 Million

RW Johnson Research

The Role of Topiramate, in Human TBI Neuroprotection- A phase 2 trial
2000-2002
Total income generated - \$530,000

NIH-NINDS

Intraventricular rTPA trial (D Hanley, PI)
2000-2005
Total income generated -\$125,000

NIH-NINDS

Prophylactic Balloon Angioplasty in SAH trial (JP Muizelaar, PI)
1999-2003
Total income generated - \$55,000

NIH

Child Health and Human development
Neurotrauma research trial center
2001-2007
\$250,000 PA

PROFESSIONAL (cont.)

NIH, NINDS Program Project Grant NS12587

Microdialysis in Human Head Injury
7/97-7/98
\$55,092

NIH Program Project NS12587

Subproject 2-Neurotransmitters enhanced traumatic Brain Injury
7/97-7/98
\$65,985

Pfizer Central Research

CT – Evaluation-NMDA Antagonist in Human TBI
12/97-12/98
\$184,140

Allos Therapeutics

Evaluation of RSR-13 in Cat Stroke Models
4/97-12/97
\$31,597

Glaxo Wellcome

Evaluation of a Glycine Antagonist in Subdural Hematoma
7/97-1/98
\$9,104

Parke-Davis-Warner Lambert

Eval. of Enadoline in Human Head Injury
7/97-7/98
\$67,680

Clinical Transcranial Doppler Studies

Transcranial Doppler in subarachnoid hemorrhage
Unspecified. period
\$46,293

ACEA Pharmaceuticals

Neuroprotection Studies within models of middle cerebral artery occlusion
98-99
\$50,000

Allos Therapeutics, Denver CO

Neuroprotection Studies with the Allosteric Oxygen Transport, Enhancer RSR13 in Cat Middle Cerebral Artery Occlusion

1999-2000
\$38,000

PROFESSIONAL (cont.)

Pfizer US

Neuroprotection Studies, Pfizer CP101606 in Cats- MCA Occlusion
1999-2000
\$38,000

Parke-Davis Pharmaceuticals (Warner-Lambert)

Phase II Study w/Enadoline in Severe Human Head Injury
2000-2001
\$ 135,000

Pfizer US, Groton, CT

Phase II Studies with CPC101606 in Moderate Brain Injury and Severe Brain Injury and Stroke with Dr.
Randall Merchant
1998-1999
\$100,000

Upjohn, Kalamazoo, MI

Phase III clinical studies with Terelazad in SAH
\$ 40,000.

Head Injury Trials Consortium, CIBA-Geigy, Summit, NJ

A Phase III Neuroprotection Study in Severe Human Head Injury with CGS 19755 (A. Marmarou)
1994-1995
\$350,000

Pfizer Research, Croton, CT

Pharmacokinetic Studies with Human Intracerebral Hematoma & Head Trauma
1995
\$130,000

Acea/Cocensys Pharmaceuticals, San Diego, CA

Studies to Test the Neuroprotective Efficacy of the Glycine Site NMDA Antagonist Acea 1021, in Three
Models of Trauma and Ischemia (with Dr. B. Lyeth)
1994-1995
\$140,000

CIBA-Geigy, Summit, NJ

Phase II Trial of CGS 19755 in Human head Injury
1993-1995
\$105,000

Bayer-Miles, West Haven, CT

Neuroprotection studies with a 5HT1A Agonist
1994
\$50,200

PROFESSIONAL (cont.)

Welcome Research Laboratories, Durham, NC

Neuroprotection Studies w/BW019 in the Rat Subdural Hematoma Model

1994

\$18,625

Pfizer Research, Groton, CT

Neuroprotection Studies in Two Animal Models of Head Injury (with Dr. A. Marmarou, Joint PI).

1994

\$98,000

AD Williams Fund

Medical College of Virginia, Richmond, VA

1993

\$10,000

Previous Grant Support from UK

Chest, heart and Stroke Association

Transcranial Doppler Studies

1988

23,000 pounds

Institute of Neurological Sciences Research Trust

SPECT Mapping of CBF and Blood Brain Barrier after Head Injury

1988

10,000 pounds

Institute of Neurological Sciences Research Trust

Animal Models of Meningitis

1989

3,000 pounds

Bayer, UK

CBF Mapping and Nimodipine in Human Contusions

1989

27,000 pounds

Glaxo, UK and MSD Pharmaceuticals

1988

9,000 pounds

Sandoz Research Institute Berne

Competitive NMDA Antagonist Drugs in Models of Intracranial Hematoma and focal ischemia

1989-1990

80,000 pounds

Celltech, UK

Studies with CGRP in Humans and Animal Models

1989

24,000 pounds

PROFESSIONAL (cont.)

Institute of Neurological Sciences Research Trust
Electrophysiological Monitoring after Severe Head Injury
1990
15,000 pounds

CIBA-Geigy, New Jersey
Evaluation of NMDA Antagonists in Ischemia
1991
90,000 pounds

Sandoz, Berne
Evaluation of NMDA Antagonists in Subdural Hematoma
1990-1991
4,900 pounds

CIBA-Geigy, New Jersey
MDA Antagonists in Animal Models
1991
9,500 pounds

CIBA-Geigy, New Jersey
NMDA Antagonists in Human Head Trauma
1991-1992
80,000 - 115,000 pounds

Total: 490,400 pounds

22. EDITORIAL BOARDS:

2003-2007	Acta Neurochirurgica
2003-2004	NeuroRx
2002-Present	Restorative Neurology and Neuroscience
2001-Present	Neurological Research
2000-Present	CNS Drug Reviews
2000-Present	Brain Injury Source (Brain Injury Association Journal)
1997-Present	Neurosurgery
1994-2007	Journal of Neurotrauma, Deputy Editor
1992-1994	Journal of Cerebral Blood Flow and Metabolism,
1990-1996	Cerebrovascular and Brain Metabolism reviews

REVIEWER FOR:

Journal of Neurosurgery
Journal Neuroscience
Surgical Neurology
British Journal of Neurosurgery
Journal of Neurology

Neurosurgery and Psychiatry
REVIEWER FOR: (CONT.)

British Medical Journal
Lancet
NIH NINDS
NIH NICHHD
United States Army
NIH NIDRR
British Medical Research Council
Swiss National Science Foundation
Victoria (Australia) Science Council
Medical Research Council of Hong Kong
University of Singapore
Canadian Innovation Fund
Acta Neurochirurgica.

EXAMINER FOR:

Medical College of Virginia/Virginia Commonwealth Univ. (PhD, MSC)
University of Uppsala Sweden (PhD)
University of Newcastle Upon Tyne (MPhil; Final Mb ChB)
University of Aberdeen (MD)
University of Glasgow (PhD)
University of Manchester, UK (MD Thesis)
Karolinska University, Stockholm, Sweden (PhD)

23. PROFESSIONAL AND HONORARY ORGANIZATIONS:

2004-2007 Safety Monitoring Board, Novo Nordisk Factor 7 Trial in TBI
2001-?? Safety Monitoring Board Chair, CNS 1102 Trial
1998-1999 President Elect, U.S. Neurotrauma Society
1997-Present Congress of Neurological Surgeons
1996-1998 Chair Head Injury Sub-committee, AANS Joint Section on Neurotrauma and Critical Care
1996-1998 American Brain Injury Trials Consortium (PI, Ciba-Geigy Selfotel Trial, Pfizer CP101606 trial)
1995-1997 Chairman, Safety Monitoring Board, Cambridge Neuroscience Cerestat Trauma Trials
1994-1998 AANS, American Neurotrauma Management Guidelines Working Party

24. HONORS AND AWARDS:

2010-2011 President, National Neurotrauma Society
2010 Chair, DOD subcommittee on TBI
2010 Elected permanent board member, Congressionally Mandated Defense Health Board
2010 Advisory board, Oxygen Biotherapeutics
2010 NIH study section ZRG1 ETTN-C (11) B- Neuropharmacology
2009 US Patent #12/469,409 "Method of Treating Traumatic Brain Injury with PFC"
2009 President-Elect, National Neurotrauma Society
2007 Olivecrona award. Karolinska institute, Stockholm. Service to Head injury.
2003-Present Chairman, Scientific Committee, Brain Trauma Foundation, New York, NY 2002-2004
PI - Virginia Commonwealth Neurotrauma Initiative:
"The role of endogenous stem cells in brain repair after TBI" – \$0.45 million

- 2001-2005 PI - NIH NINDS Program Project Grant. "Mitochondrial dysfunction in severe head injury" - \$6.5 million
- 2000-2002 Chairman, Trauma Section, AANS/CNS
- 1999-2000 President, US Neurotrauma Society
- 1998-2000 Listed in "Best Doctors in America"

25. POST-DOCTORAL FELLOWSHIPS: N/A

26. OTHER PROFESSIONAL ACTIVITIES:

TEACHING

- 27. COMMITTEES - MEDICAL COLLEGE OF VIRGINIA
- 28. TEACHING SPECIALIZATION
- 29. THESIS AND DISSERTATION ADVISING/POST-DOCTORAL STUDENT SUPERVISION

- 2001-2003 - Endowed Chairs Selection Committee
- 1998-2002 - Research Committee
- 1994-2003 - Intensive Care Committee
- 1994-2003 - Trauma Management Committee
- 1993-1995 - Chairman, Stroke Project, Neuroscience Center
- 1993-1994 - Advanced Directives Group (Dan Festa)

V. SERVICE

- 30. UNIVERSITY COMMITTEE AND ADMINISTRATIVE RESPONSIBILITIES
- 31. COMMUNITY ACTIVITIES