

Peer Reviewed Publications

1. Dopperberg EMR, Bullock R. Clinical trials in severe human head injury: Lessons for the future. *J Neurosurg Anesthesiol.* 2004 16:87-94
2. Dopperberg EM, Reinert M, Zauner A, Massie TS, Bullock R. Determinants of cerebral extracellular potassium after severe human head injury. *Acta Neurochir Suppl (Wien).* 1999;75:31-4.
3. Dopperberg EM, Rice MR, Alessandri B, Qian Y, Di X, Bullock R. Reducing hemoglobin oxygen affinity does not increase hydroxyl radicals after acute subdural hematoma in the rat. *J Neurotrauma.* 1999;16(2):123-33.
4. Dopperberg EM, Zauner A, Watson JC, Bullock R. Determination of the ischemic threshold for brain oxygen tension. *Acta Neurochir Suppl (Wien).* 1998;71:166-9.
5. Dopperberg EM, Zauner A, Bullock R, Ward JD, Fatouros PP, Young HF. Correlations between brain tissue oxygen tension, carbon dioxide tension, pH, and cerebral blood flow--a better way of monitoring the severely injured brain? *Surg Neurol.* 1998 Jun;49(6):650-4.
6. Dopperberg EM, 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.* 1998 May;15(5):337-47.
7. Dopperberg EM, 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.* 1997 Dec;87(6):809-16.
8. Dopperberg EM, Choi SC, Bullock R. Clinical trials in traumatic brain injury. What can we learn from previous studies? *Ann N Y Acad Sci.* 1997 Oct 15;825:305-22. Review.
9. Dopperberg EM, Bullock R. Clinical neuro-protection trials in severe traumatic brain injury: lessons from previous studies. *J Neurotrauma.* 1997 Feb;14(2):71-80. Review.
10. Dopperberg EM, 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. *Ann N Y Acad Sci.* 1997 Oct 15;825:241-57.
11. Dopperberg EMR, de Ridder RMS, van Leeuwen M, Moreira Pereira Ramos L, Tulleken CAF. Intra-operatieve echografie bij neurochirurgie. *Ultrasonoor Bulletin* 20:1-6, 1992.
12. Vartan Tashjian, Eric Lyders, Egon M.R. Dopperberg, William C Broaddus, Pierre Pavot, Gary Tye, Amon Y. Liu, Juan Perez, Nitya Ghatak, Diagnosis of Erdheim-Chester disease with CT-guided stereotactic biopsy of a caudate lesion: a case report *J Neurosurg* September 2004

13. Geyi, V, Hui F, Dopperberg EM, Todd S, Broaddus WC Glioblastoma Multiforme causing Calvarial destruction: An Unusual manifestation Revisited. *J Neurorad* September 2004
14. Soukup J, Zauner A, Dopperberg EM, Menzel M, Gilman C, Bullock R, Young HF. Relationship between brain temperature, brain chemistry and oxygen delivery after severe human head injury: the effect of mild hypothermia. *Neurol Res.* 2002 Mar;24(2):161-8.
15. Soukup J, Zauner A, Dopperberg EM, Menzel M, Gilman C, Young HF, Bullock R. The importance of brain temperature in patients after severe head injury: relationship to intracranial pressure, cerebral perfusion pressure, cerebral blood flow, and outcome. *J Neurotrauma.* 2002 May;19(5):559-71.
16. Reinert M, Khaldi A, Zauner A, Dopperberg E, Choi S, Bullock R. High level of extracellular potassium and its correlates after severe head injury: relationship to high intracranial pressure. *J Neurosurg* 2000 Nov;93(5):800-7
17. Reinert M, Hoelper B, Dopperberg E, Zauner A, Bullock R. Substrate delivery and ionic balance disturbance after severe human head injury. *Acta Neurochir Suppl.* 2000;76:439-44.
18. Bullock MR, Merchant RE, Carmack CA, Dopperberg E, Shah AK, Wilner KD, Ko G, Williams SA. An open-label study of CP-101,606 in subjects with a severe traumatic head injury or spontaneous intracerebral hemorrhage. *Ann N Y Acad Sci.* 1999;890:51-8.
19. Alessandri B, Dopperberg 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;75:25-8.
20. Alessandri B, Dopperberg E, Bullock R, Woodward J, Choi S, Koura S, Young HF. Glucose and lactate metabolism after severe human head injury: influence of excitatory neurotransmitters and injury type. *Acta Neurochir Suppl (Wien).* 1999;75:21-4.
21. Yamamoto T, Rossi S, Stiefel M, Dopperberg E, Zauner A, Bullock R, Marmarou A. CSF and ECF glutamate concentrations in head injured patients. *Acta Neurochir Suppl (Wien).* 1999;75:17-9.
22. Menzel M, Dopperberg 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 Oct;11(4):240-51.
23. Menzel M, Dopperberg EM, 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.* 1999 Jul;91(1):1-10.
24. Koura SS, Dopperberg EM, Marmarou A, Choi S, Young HF, Bullock R. Relationship between excitatory amino acid release and outcome after severe human head injury. *Acta Neurochir Suppl (Wien).* 1998;71:244-6.

25. Alessandri B, Doppenberg E, Zauner A, Woodward J, Young HF, Bullock R. Cortical extracellular sodium transients after human head injury: an indicator of secondary brain damage? *Acta Neurochir Suppl (Wien)*. 1998;71:237-40.
26. Zauner A, Doppenberg E, Soukup J, Menzel M, Young HF, Bullock R. Extended neuromonitoring: new therapeutic opportunities? *Neurol Res*. 1998;20 Suppl 1:S85-90.
27. A Marmarou, P Fatouros, R Bullock, P Barzo, T Yamamoto, K Bandoh, M Yoshihara, E Doppenberg, H Young: 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.
28. Zauner A, Doppenberg EM, Woodward JJ, Choi SC, Young HF, 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.
29. Watson JC, Doppenberg EM, Bullock MR, Zauner A, Rice MR, Abraham D, Young HF. Effects of the allosteric modification of hemoglobin on brain oxygen and infarct size in a feline model of stroke. *Stroke*. 1997 Aug;28(8):1624-30.
30. 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. *Neurol Res*. 1997 Jun;19(3):265-73.
31. Bullock R, Doppenberg EM, Zauner, A, Young HF. New techniques for multi-modality monitoring of the injured brain: Opportunities for therapy? *Jap Journal Int Crit Care Med*. 9(11), 1997.
32. Michael Reinert, Ahmad Khaldi, Alois Zauner, Egon Doppenberg, Sung Choi, Ross Bullock, High level of extracellular Potassium and its Correlates after Severe Human Head Injury: Relationship to High Intracranial pressure. *J Neurosurg* 93:810-817, 2000.
33. M.Reinert, E.M.R. Doppenberg, A.Zauner, T.Massie, R.Bullock: Determinants of Cerebral Extracellular Potassium After Severe Human Head Injury, *Proceedings of ISSM II 1997*, Williamsburg, Springer Verlag.
34. Menzel M, Doppenberg EM, Zauner A, Soukup J, Henze D, Clausen T, Rieger A, Bullock R, Radke J. Cerebral oxygenation reactivity determination- a simple test with potential prognostic relevance *Zentralbl. Neuroch.* 61(4); 181-7 2000.
35. Hoelper BM, Reinert MM, 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

Book Chapters

1. Egon M.R Doppenberg and John D. Ward. Pediatric Head Injury. Doppenberg, In: Youmans Neurological Surgery by Julian R. Youmans (Editor) Richard Winn Edition:5TH 2003.
2. Egon M.R. Doppenberg, Ross Bullock and William C. Broaddus. Pathophysiology and management of human head injury. In Pathophysiology of Surgery Miller et al. 2003.
3. Egon M.R. Doppenberg & John D. Ward. Mass lesions in pediatric head injury. In: Principles and practice of pediatric neurosurgery A. Leland Albright (Ed). 2003.
4. Egon M.R. Doppenberg, Chris Zacko, Michael Y. Chen & William C. Broaddus. Fibrous tumors. In: Textbook of Neuro-Oncology. M. Berger(ed).2004
5. Egon M.R. Doppenberg & Ross Bullock. Management of Induced Hypothermia in the ICU. In: Proceedings of the international brain hypothermia symposium Tokyo Japan 2004..Hayashi. (Ed)
6. Reinert MM, Soukop J, Zauner A, Doppenberg E, Bullock. Spontaneous cerebral hypothermia after severe head injury: Relation with brain chemistry and cerebrovascular parameters. In: Brain hypothermia, Pathology, Pharmacology and treatment of severe brain injury. N. Hayashi (Ed.) Springer-Verlag Tokyo 2000.

Clinical Trials:

- 1994 -1995 Investigator of Phase I trials
U-gene Research Institute
Utrecht, the Netherlands
- 1995 Study on efficacy and safety of a TNF receptor antagonist in surgical patients with septic shock, (Roche),
Academic Hospital Utrecht
the Netherlands.
- 1997 An increasing-dose study of the tolerance, safety, and pharmacokinetics of intravenous Enadoline compared with placebo in patients with head injury. (Parke-Davis)
Department of Neurosurgery
Virginia Commonwealth University Health Systems
Medical College of Virginia Richmond VA
- 1997 A multicenter, double-blind, placebo-controlled study of the safety and efficacy of SB-238592-DB (Bradycor) in patients with severe traumatic brain injury. (Smith, Kline & Beecham)
Department of Neurosurgery
Virginia Commonwealth University Health Systems
Medical College of Virginia Richmond VA

Pharmaceutical Reports:

Bullock R., Watson J., Doppenberg E.M.R., Zauner A. The effect of the allosteric hemoglobin modifier RSR 13 upon oxygen transportation in ischemic brain, and upon infarct size in a feline model of human stroke. Report prepared for Allos Therapeutics, 1996

Bullock R, Di X, Watson J, Doppenberg E.M.R., Rice M, Corwin F. The effect of the, CP101606, a novel glutamate antagonist, upon infarct size in a feline model of human stroke. Report prepared for Phizer Neurodegenerative Diseases Group. 1996.

Invited Lecturer:

Neurochemical monitoring in severely head injured patients, The 7th World Congress of Intensive and Critical Medicine, Ottawa, Canada. 1997.

Clinical trials in severe head injury. The 7th World Congress of Intensive and Critical Medicine, Ottawa, Canada. 1997.

(Oral) Presentations/Abstracts

1. Doppenberg EMR., de Ridder RMS. A study of the anatomy of the pre-peritoneal space for extra-peritoneal laparoscopic repair of inguinal hernias, Department of Medical Anatomy and Embryology and the Department of Surgery, University Hospital Utrecht, 1994. Graduation thesis.
2. Doppenberg E, de Ridder R. Pronk A, Clevers G, de Vries L. Hansson-pin fixation in medial fractures of the femoral neck. A retrospective study. Dutch Congress of Traumatology. Arnhem, the Netherlands, 1992.
3. Doppenberg E, Braams R, van der Werken C. Complications of heparinization in patients with postoperative lung emboli. Annual Dutch Surgical Congress. Veldhoven, the Netherlands, 1994.
4. Doppenberg E, Watson J, Bullock R, Zauner A, Young H. Allosteric modification of hemoglobin to enhance oxygen release in a feline model of acute ischemia. Annual meeting of Allos Therapeutics. 1996, Chicago, USA.
5. Doppenberg E, Zauner A, Bullock R, Ward J, Marmarou A, Fatouros P, Young H. Brain gases, pH and cerebral blood flow (correlations and consequences for interpreting the monitoring of the severely head injured patient. International Congress of Recent Advances in Neurotraumatology, Riccione, Italy, 1996.
6. Doppenberg EM, Zauner A, Bullock R, Ward J, Marmarou A, Fatouros P, Young HF. Correlations between brain pO₂, pCO₂, pH and cerebral blood flow - a better way of monitoring the severely injured brain? Annual Meeting of the Congress of Neurological Surgeons, CNS Montreal, Canada, 1996. *Neurosurgery* 39: 637, 1996.
7. Doppenberg EM, Zauner A, Bullock R, Ward JD, Young HF. Determination of the ischemic threshold for brain tissue oxygenation in the severely head injured patient. Tenth International Symposium on Intracranial Pressure and Neuromonitoring in Brain Injury. Williamsburg, 1997. *Acta Neurochirurgica Supplement* 71: pp-pp by Springer-Verlag.
8. Doppenberg EM, Zauner A, Fatouros P, Ward JD, Bullock R. Does continuous measurement of brain tissue temperature reflect cerebral blood flow in the severely head injured patient? Fourth International conference on Xenon CT-CBF. Houston, 1997.
9. Doppenberg EM, Zauner A, Koura SS, Bullock R, Ward JD, Young HF. Glutamate, lactate and glucose - ischemic thresholds determined according to cerebral blood flow measurements in severe human head injury. International Congress of Neurological Surgery. Amsterdam, the Netherlands, 1997. *Clinical Neurology and Neurosurgery* 99: S104, 1997.

10. Dopperberg E, Zauner A, Bullock R, Ward J, Marmarou A, Fatouros P, Woodward J, Young HF. Massively increased extra-cellular fluid lactate in severe human head injury - evidence for preferential glycolysis? International Congress of Recent Advances in Neurotraumatology, Riccione, Italy, 1996.
11. Dopperberg EM, Zauner A, Bullock R, Ward J, Marmarou A, Fatouros P, Woodward J, Young HF. Increased extra-cellular fluid lactate in traumatic brain injury - evidence for ischemia? Annual Meeting of the Congress of Neurological Surgeons, Montreal, Canada, 1996.
12. Dopperberg EM, Watson JC, Holloway K, Bullock R, Young HF. Can we make aneurysm surgery safer with intra-operative monitoring of true substrate delivery? - preliminary results. Annual Meeting of the Congress of Neurological Surgeons, Montreal, Canada, 1996.
13. Dopperberg EM, Zauner A, Fatouros P, Marmarou A, Ward JD, Choi SC, Young HF, Bullock R. Dynamic relationships between local cerebral blood flow and cerebral metabolism. Fourteenth Annual Meeting of the Neurotrauma Society. Washington D.C. 1996. *J Neurotrauma* 13: 619, 1996.
14. Dopperberg EM, Zauner A, Woodward J, Young HF, Bullock R. Evidence for glutamate-mediated anaerobic glycolysis after severe human head injury? A microdialysis study. Fourteenth Annual Meeting of the Neurotrauma Society. Washington D.C. *J Neurotrauma* 13: 597, 1996.
15. Dopperberg EM, Graham RS, Young HF, Bullock R. The effect of acute intracranial hematomas on cerebral oxygen delivery. Evidence for the importance of early decompression. Annual meeting of the American Association of Neurological Surgeons. Denver, 1997.
16. Dopperberg EM, Watson JC, Holloway KL, Young HF, Bullock R. Can monitoring of cerebral metabolic substrate lead to safer cerebro-vascular procedures? - Preliminary results with a continuous oxygen electrode. Annual meeting of the American Association of Neurological Surgeons. Denver, 1997.
17. Dopperberg EM, Rice MR, Di X, Zauner A, Bullock R. The effect of increased arterial oxygen tension on the free radical production in a subdural hematoma model. Annual meeting of the American Association of Neurological Surgeons. Philadelphia, 1998.
18. Dopperberg EM, Reinert M, Massie T, Bullock R. Glutamate drives energy metabolism after severe human TBI. Fourteenth Annual Meeting of the Neurotrauma Society. Los Angeles, 1998. *J Neurotrauma* XX: XX, 1998.
19. E.Dopperberg, M.Reinert, A.Zauner, T.Massie, R.Bullock: Glutamate Drives Energy Metabolism After Severe Human TBI, Annual Neurotrauma Society Meeting, Los Angeles 1998

20. Bullock Ross, Doppenberg Egon. Clinical trials in traumatic brain injury: What can we learn from previous studies? Symposium on perioperative neuroprotection. Maryland September 2003.
21. Bullock R, Doppenberg EM, Zauner A, Myseros J, Woodward JJ. Microdialysis and related neuromonitoring techniques. International Congress of Recent Advances in Neurotraumatology, Riccione, Italy, 1996.
22. Marmarou A, Barzo P, Fatouros P, Yamamoto T, Doppenberg E, Muizelaar P, Bullock R, Young H. Contribution of brain edema and blood volume to brain swelling in severely head injured patients. International Congress of Recent Advances in Neurotraumatology, Riccione, Italy, 1996.
23. Myseros JS, Bullock MR, Doppenberg EM, Choi S. The relationship between excitatory and structural amino acids in severely head-injured patients. Annual Meeting of the Congress of Neurological Surgeons, CNS Montreal, Canada, 1996.
24. Gupta AK, Doppenberg EM, Williams C, Zauner A, Bullock MR. Intra-operative changes in brain tissue oxygen, CO₂ and pH during craniotomy measured by a new fiberoptic sensor. American Society of Anesthesiologists. New Orleans, 1996. *J Neurosurg Anesthesiol* 8: 325, 1996.
25. Myseros JS, Bullock MR, Choi S, Doppenberg E. "The relationship between excitatory and structural amino acids in the severely head injured patients." Annual Meeting of the Congress of Neurological Surgeons, Montreal, Canada, October 1996.
26. Zauner A, Doppenberg EM, Bullock R, Nagatsuka M. Comprehensive neuromonitoring to assess the status of the injured brain in severely head injured patients. American Society of Anesthesiologists. New Orleans, 1996.
27. Zauner A, Doppenberg EM, Bullock R, Lewelt W. Brain oxygen, carbon dioxide and pH in patients with severe head injury. Fourth International Symposium of Central Nervous System Monitoring. Gmunden Austria, 1996. *J Neurosurg Anesthesiol* 9: 88, 1997.
28. Zauner A, Doppenberg EM, Young HF, Bullock R. Brain oxygen monitoring predicts outcome after severe head injury. Fourteenth Annual Meeting of the Neurotrauma Society. Washington D.C, 1996. *J Neurotrauma* 13: 619, 1996.
29. Di X, Watson J, Doppenberg EM, Rice M, Corwin F, Bullock R. Lactate, a biochemical marker of ischemic brain damage Fourteenth Annual Meeting of the Neurotrauma Society. Washington D.C, 1996. *J Neurotrauma* 13: 623, 1996.
30. Fatouros P, Marmarou A, Laine FJ, Barzo P, Doppenberg EM, Bullock R. Primary causes of brain swelling in acute head injury. Annual meeting of the Radiological Society of North America, Chicago, 1996. *Radiology* 201[Suppl]: 453, 1996.

31. Watson JC, Doppenberg EM, Bullock MR, Zauner A, Young HF. Changing hemoglobin to protect the brain: Testing of a novel compound in experimental ischemia. Annual meeting of the American Association of Neurological Surgeons, Denver, 1997. *J Neurosurg* 86: 376A, 1997.
32. Watson JC, Di X, Bullock MR, Doppenberg EM, Fatouros PP, Young HF. Potent experimental brain protection with a new generation NMDA antagonist CP101,606: Results in a model of middle cerebral artery occlusion in the cat. Annual meeting of the American Association of Neurological Surgeons. Denver, 1997.
33. Zauner A, Doppenberg EM, Young HF, Bullock R. Early impairment of brain oxygen delivery determines outcome, after severe head injury: experience with continuous oxygen monitoring in 25 patients. Annual meeting of the American Association of Neurological Surgeons, Denver, USA, 1997. *J Neurosurg* 86: 377A, 1997.
34. Bullock R, Rothwell N, Doppenberg EM, Woodward JJ, Young HF. Elevated brain Interleukin 6 after severe human head injury: correlation with secondary ischemic event. Tenth International Symposium on Intracranial Pressure and Neuromonitoring in Brain Injury. Williamsburg, 1997.
35. Koura S, Woodward JJ, Doppenberg EM, Marmarou A, Bullock R, Young HF. Relationship between excitatory amino acids and outcome after severe human head injury. Tenth International Symposium on Intracranial Pressure and Neuromonitoring in Brain Injury. Williamsburg, USA, 1997. *Acta Neurochirurgica Supplement* 71: pp-pp by Springer-Verlag.
- 36., Menzel M, Doppenberg EM, Zauner A, Bullock R, Ward JD, Young HF. Can we improve brain tissue oxygenation with increased inspired oxygen concentration? Tenth International Symposium on Intracranial Pressure and Neuromonitoring in Brain Injury. Williamsburg, USA, 1997. *Acta Neurochirurgica Supplement* 71: pp-pp by Springer-Verlag
37. Zauner A, Doppenberg EM, Menzel M, Young HF, Bullock R. Relationship of brain temperature to brain metabolism and core temperature in patients with severe head injury. Tenth International Symposium on Intracranial Pressure and Neuromonitoring in Brain Injury. Williamsburg, USA, 1997. *Acta Neurochirurgica Supplement* 71: pp-pp by Springer-Verlag
38. Zauner A, Doppenberg EM, Menzel M, Young H, Bullock R. Relationship of brain oxygen to GCS, ICP, CPP and outcome in severely head injured patients. Tenth International Symposium on Intracranial Pressure and Neuromonitoring in Brain Injury. Williamsburg, USA, 1997. *Acta Neurochirurgica Supplement* 71: pp-pp by Springer-Verlag

39. Alessandri B, Dopperberg E, Woodward J, Bullock R. Episodes of increased cortical sodium levels after human head injury: a source for secondary brain damage? Tenth International Symposium on Intracranial Pressure and Neuromonitoring in Brain Injury. Williamsburg, USA, 1997. Acta Neurochirurgica Supplement 71: pp-pp by Springer-Verlag
40. Alessandri B, Dopperberg E, Koura S, Woodward J, Bullock R. Excitatory neurotransmitters influence energy metabolism after severe human head injury: effect of injury type. Tenth International Symposium on Intracranial Pressure and Neuromonitoring in Brain Injury. Williamsburg, USA, 1997. Acta Neurochirurgica Supplement 71: pp-pp by Springer-Verlag
41. Watson JC, Dopperberg EM, Winters CJ, Choi SC, Bullock MR. Correlation of high extracellular potassium and glutamate with intracranial pressure in the severely head injured patient: a microdialysis study. Tenth International Symposium on Intracranial Pressure and Neuromonitoring in Brain Injury. Williamsburg, USA, 1997. Acta Neurochirurgica Supplement 71: pp-pp by Springer-Verlag.
42. Marmarou A, Fatouros P, Bullock R, Yamamoto T, Bandoh K, Yoshihara M, Dopperberg 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. Tenth International Symposium on Intracranial Pressure and Neuromonitoring in Brain Injury. Williamsburg, USA, 1997. Acta Neurochirurgica Supplement 71: pp-pp by Springer-Verlag
43. Fatouros P, Dopperberg E, Broaddus W, Bullock R. A noninvasive CT-based imaging method for measuring cerebral hematocrit. Fourth International conference on Xenon CT-CBF. Houston, USA, 1997.
44. Bullock R, Dopperberg E, Zauner A. New techniques for monitoring brain metabolism and substrate delivery - new opportunities for therapy. Third Annual Meeting of the Japanese Society for the Monitoring of Cerebral Metabolism. Japan, 1997.
45. Watson J, Dopperberg E, Broaddus W, Bullock R. Oxygen monitoring in aneurysm surgery. John Jane Society. Annual meeting June 7, 1997, Charlottesville.
46. Zauner A, Dopperberg E, Bullock R, Young H. Neurochemical monitoring in severely head injured patients. John Jane Society. Annual meeting June 7, 1997 Charlottesville.
47. Bullock R, Merchant R, Carmack C, Dopperberg E, Shah E, Wilner K, Ko G, Williams GA. An open label study CP-101,606 in subjects with severe traumatic brain injury or spontaneous intracerebral hemorrhage. Fourteenth Annual Meeting of the Neurotrauma Society, New Orleans, 1997. J Neurotrauma 14:765, 1997.
48. Zauner A, Dopperberg E, Soukup J, Young HF, Bullock R. Extended Neuromonitoring: New Therapeutic opportunities? Cerebral oxygenation, Wurzburg, Germany, 1997.

49. Menzel M, Doppenberg E, Zauner A, Bullock R, Ward J, Young H, Marmarou A, Brockenborough P. Arterial oxygen partial pressure as a determinant of brain tissue oxygenation and brain tissue lactate levels after severe head injury. Annual Meeting of the Congress of Neurological Surgeons, CNS New Orleans, September 1997. *Neurosurgery* 41: 753, 1997.
50. Ward J, Zauner A, Doppenberg E, Bullock R, Young HF. Direct brain pO₂, pCO₂, and pH monitoring in pediatric patients with severe head injury. Seattle, December 1997.
51. Ward J, Bullock R, Zauner A, Doppenberg E, Tillett J. The metabolic monitoring of pediatric patients with severe head injury. Meeting of the American Association of Pediatric Neurosurgeons. Hawaii, 1998.
52. Zauner A, Soukup J, Doppenberg E, Ward J, Young H, Bullock R. The effect of therapeutic cooling on brain oxygenation and metabolism in neurosurgical patients. Congress of Neurological Surgeons, CNS Seattle, 1998.
53. Soukup J, Zauner A, Doppenberg E, Young H, Bullock R. Early spontaneous intracerebral hypothermia denotes poor brain perfusion in severe human head injury. Congress of Neurological Surgeons, CNS Seattle, September 1998.
54. Soukup J, Zauner A, Doppenberg E, Young H, Bullock R. Brain temperature monitoring, mild hypothermia and outcome in patients after severe head injury. Congress of Neurological Surgeons, CNS Seattle, September 1998.
55. Reinert M, Doppenberg E, Zauner A, Massie T, Marmarou A, Bullock R. Elevated extracellular potassium with reduced CBF in patients with severe traumatic brain injury. Annual meeting of the Congress of Neurological Surgeons. Seattle, 1998.
56. Prabhu SS, Doppenberg E, Broaddus WC, Young HF. Blood flow characteristics in malignant brain tumors. A Xenon-enhanced computerized study. Third Biannual brain tumor satellite symposium of the Section on Tumors of the American Association of Neurological Surgeons and Congress of Neurological Surgeons, April 1998, Philadelphia, Pennsylvania.
57. Prabhu SS, Doppenberg E, Broaddus WC, Young HF. Correlation of the degree of malignancy of primary brain tumors with local blood-brain partition coefficient (λ). A Xenon-enhanced computerized study. A Xenon-enhanced computerized study. Third Biennial Brain Tumor Satellite Symposium of the Section on Tumors of the American Association of Neurological Surgeons and Congress of Neurological Surgeons, April 1998, Philadelphia, Pennsylvania.
58. Birgfeld CB, Doppenberg EMR, Woodward JJ, Bullock R. Comparison of glutamate to serine and histidine after traumatic brain injury. Sixteenth Annual Neurotrauma Symposium, November 1998 Los Angeles, California.

59. Lewelt W, Zauner A, Soukup J, Doppenberg E, Bullock R. Mild hypothermia and brain oxygenation in neurosurgical patients. World Conference of Neuro-anesthesia, Japan, 1999.
60. M.M.Reinert, E.Doppenberg, Ross Bullock; Determinants of cerebral extracellular potassium after severe human head injury, Abstract for Annual Neurotrauma Society Meeting, Los Angeles 1998
61. Zauner, M.Reinert, B.Alessandri, E.Doppenberg, H.F. Young, R.Bullock; The role of clinical microdialysis in the Neurointensive Care Unit.; First Workshop-Neurosurgery Neuroanesthesia and Critical Care Medicine, Halle Germany, 1998
62. A.Zauner, M.Reinert, B.Alessandri, E.Doppenberg, H.F. Young, R.Bullock; The role of clinical microdialysis in the Neurointensive Care Unit.; First Workshop-Neurosurgery Neuroanesthesia and Critical Care Medicine, Halle Germany, 1998
63. M.M. Reinert, B.M. Hoelper, E.Doppenberg, A.Zauner, R.Bullock; Effects of Glutamate on Energy Metabolism after severe human head injury: 1999 International Brain Oedema Meeting, New castle U.K.
64. B.M. Hoelper, M.M. Reinert, A.Zauner, E.Doppenberg, R.Bullock; rCBF in hemorrhagic, non-hemorrhagic and mixed contusions after severe head injury and its effect on perilesional cerebral blood flow; 1999 International Meeting Brain Oedema Newcastle U.K.
65. B.M. Hoelper, M.M.Reinert, A.Zauner, E.Doppenberg, S.C. Choi, R. Bullock; Brain tissue oxygen-, carbondioxide- and pH-threshold analysis in relation with outcome in severe human head injury: 1999 Berlin Third conference on brain oxygenation.
66. Brophy GM, Tesoro EP, Tang Z, Karnes HT, Doppenberg E, Bullock MR. Using brain microdialysis to detect drug penetration in severe brain injury patients. Crit Care Med 2001;29:A32.
67. Brophy GM, Tesoro EP, Tang Z, Karnes HT, Doppenberg E, Bullock MR. Using brain microdialysis to detect drug penetration in severe brain injury patients. Pharmacotherapy 2002;22:407
68. Clausen T, Zauner A, Reinert M, Doppenberg E, Khaldi A, Young HF, Bullock R: Is monitoring of brain tissue pCO₂ important after severe traumatic brain injury? ICP Meeting 2000 (Cambridge, GB).
69. M Menzel, E Doppenberg, A Zauner, J Soukup, R Bullock: CBF and ptiO₂-a relationship depending on normoxia. 3rd Conference on Brain Oxygenation, Berlin, Germany, 1999.
70. J Soukup, A Zauner, E Doppenberg, HF Young, R Bullock: brain tissue oxygenation and therapeutic cooling in severely head injured patients. 3rd Conference on Brain Oxygenation, Berlin, Germany, 1999.

71. J Soukup, A Zauner, E Dopperberg, HF Young, R Bullock: The effects of spontaneous changes in brain temperature on outcome in severely head injured patients. CNS, Seattle, 1998.
72. A Zauner, E Dopperberg, J Soukup, J Ward, HF Young, R Bullock: Brain tissue oxygenation and therapeutic cooling in neurosurgical patients. The Neurosurgical Society of the Virginias, Richmond, 1998.
73. A Zauner, E Dopperberg, R Bullock, HF Young: Neuromonitoring in the Intensive Care Unit, John Jane Society, Annual meeting, Charlottesville, June, 1997.
74. Timothy Van Meter, PhD, Michael Chen, MD*, Gary Tye, MD, Drew Dill, Egon Dopperberg, MD, Helen Fillmore, PhD, and William C. Broaddus, MD, PhD AKT-2 (Protein Kinase B-b) Levels Inversely Correlate with Survival in Medulloblastoma Patients