

Curriculum Vitae

Raphael Guzman M.D.

Vice Chairman and Professor of Neurosurgery and Neurosciences

Chief of Cerebrovascular and Pediatric Neurosurgery

University Hospital of Basel, University Children's Hospital of Basel; Basel, Switzerland

Mailing address: University of Basel
Department of Neurosurgery
Spitalstrasse 21
CH-4031 Basel
Telephone: +41 61 265 7124
Fax: +41 61 265 7138
E-mail: raphaelg@me.com
raphael.guzman@usb.ch

Present Position: Vice Chair
Chief of Cerebrovascular and Pediatric Neurosurgery
Department of Neurosurgery, University of Basel

Past Position: Assistant Professor of Neurosurgery and Neurosciences
Bechtel Endowed Faculty Scholar in Translational Medicine
Stanford University, School of Medicine

Languages

Written and Spoken: English, German, French

Languages Spoken: Hebrew, Italian, Spanish (basic)

Scientific Advisory Boards and Consultant

AdeTherapeutics Inc (Scientific Advisor)
StemCells Inc. (Consultant, past)
Branchpoint Technologies (Scientific Advisor past)
Cliniscient (Scientific Advisor past)
Actelion (Consultant)
XBio (Consultant past)
Leica (Consultant, Scientific Advisory Board)

A. Education

1986 - 1991	College, Business and Administration, Bern, Switzerland
1991 - 1998	Medical School, University of Bern, Bern, Switzerland
1998	M.D. degree University of Bern, Bern, Switzerland, 12/03/1998
2006	Neurosurgery Board Certification (European Union and Switzerland) European Association of Neurological Surgery 02/17/2007 Swiss Medical Association, Swiss Neurosurgical Society 03/28/2007
2007	Cerebrovascular, Skull Base, and Pediatric Neurosurgery Fellowship Certification Stanford University, School of Medicine; Department of Neurosurgery

B. Residency and Fellowship training

10/1997 – 12/1997	Sub-Intern, Clinical rotation, Dept. of Internal Medicine, University of Bern, Switzerland H.R. Bauer M.D., Prof and Chairman
1/1998 – 3/1998	Sub-Intern, Clinical rotation, Dept of Neurosurgery, University of Washington, USA H.R. Winn M.D., Professor and Chairman
3/1998 – 5/1998	Intern, Clinical rotation, Dept. of Surgery, University of Tel Aviv, Israel G. Ben Ari M.D., Professor and Chairman
11/1998 – 6/1999	Research Assistant, Dept. of Neurosurgery, University of Bern, Switzerland H.R. Widmer Ph.D., Director, research laboratory
7/1999 – 12/1999	Resident, Dept of Neurosurgery, University of Bern, Switzerland R.W Seiler M.D., Professor and Chairman
1/2000 – 6/2000	Resident, Dept. of Neurosurgery, University of Bern, Switzerland G. Schroth M.D., Professor and Chairman
7/2000 - 12/2000	Resident, Dept. of Neurology, University of Bern, Switzerland C.W. Hess M.D., Professor and Chairman
1/2001 – 7/2003	Resident, Dept. of Neurosurgery, University of Bern, Switzerland R.W. Seiler M.D., Dept of Neurosurgery, University of Bern, Switzerland
8/2003 - 4/2004	Chief Resident, Dept. of Neurosurgery, University of Bern, Switzerland R.W. Seiler M.D., Professor and Chairman
4/2004 – 12/2005	Postdoctoral Fellow, Dept. of Neurosurgery, Stanford University, USA G. Steinberg M.D., PhD, Professor and Chairman
1/2006 – 4/2007	Cerebrovascular Fellowship and Skull Base, Dept. of Neurosurgery, Stanford University, USA G. Steinberg M.D., PhD, Professor and Chairman
4/2007 – 7/2007	Pediatric Neurosurgery Fellowship, Dept. Of Neurosurgery, Stanford University, USA M.S. Edwards M.D., Professor and Director of Pediatric Neurosurgery
7/2007 – 9/2007	Pediatric Neurosurgery Fellowship, Hospital Necker, Dept. Of Pediatric Neurosurgery, Paris France Chr. Sainte-Rose M.D., Professor and Chairman

C. Thesis

Non-invasive Imaging of the Rat Brain in Neurodegenerative Diseases:

I. Imaging the Rat Brain on a 1.5T clinical MR-Scanner

Guzman R, Lövblad KO, Meyer M, Spenger C, Schroth G and Widmer HR (2000). Imaging the rat brain on a 1.5T clinical MR-Scanner. *J. Neurosci. Methods* 97: 77-85

2. Striatal Grafts in a Rat Model of Huntington's disease:

Time Course Comparison of MRI and Histology

Guzman R, Meyer M, Lövblad KO, Ozdoba C, Schroth G, Seiler RW and Widmer HR (1999). Striatal grafts in a rat model of Huntington's disease: Time course comparison of MRI and histology. *Exp. Neurol.* 156(1): 180-190

D. Grant Support

Deans Fellowship, Stanford University, 1/2005 – 12/2005

Role: Principal Investigator (\$25'000)

Title: The role of SDF-1 in neural stem cell migration after ischemic brain injury

Senior Investigator Grant, SSMBS 4/2005 – 4/2006

Role: Principal Investigator (\$45'000)

Title: Neural stem cell migration in the injured brain

Young Investigator Grant, Swiss National Science Foundation 4/2004 – 3/2005

Role: Principal Investigator (\$47'000)

Title: Stem cell transplantation in experimental focal stroke: effect of postischemic inflammation on cell survival, differentiation fate and migration.

Child Health Research Program (CHRP) Grant, 7/2008-6/2010

Role: Principal Investigator (\$25'000)

Title: Endothelial progenitor cells in moyamoya disease: A new biomarker for disease surveillance

Canadian Institute of Health Research (CIHR) Grant, 7/2008-6/2009

Role: Co-Principal Investigator (\$10'000)

Title: Planning grant for synchrotron medical imaging

California Institute for Regenerative Medicine (CIRM) Grant (TRI-01249), 7/2009 – 6/2012

Role: Co-Investigator (\$5'900'000)

Title: TRI-01249: Enhancing healing via Wnt-protein mediated activation of endogenous stem cells

Scientist development grant, American Heart Association (AHA-0835274N), 7/2008 – 6/2012

Role: Principal Investigator (\$325'000)

Title: Intravascular stem cell therapy for stroke

Bechtel Faculty Scholar in Pediatric Translational Medicine, 9/2009 – 8/2014

Role: Principal Investigator (\$500'000)

Title: Endovascular neural stem cell therapy for pediatric stroke

Canadian Institute of Health Research (CIHR) Grant, 9/2009 -8/2014

Role: Co-Investigator (\$2'500'000)

Title: Team in synchrotron medical imaging

Stanford Children's Hospital Center for Brain and Behavior Awards in Pediatric Neurosciences

Role: Co-Investigator (\$145'000)

Title: MR Imaging Correlates for Cognitive Dysfunction in Pediatric Medulloblastoma Treated by Cranial Irradiation

RFA-OD-09-004 NIH Grand Opportunity (GO) Grant, 10/01/2009

Role: Co-Investigator (\$1'500'000)

Title: A Phase I Study of EGFRV111 Peptide Vaccination (CDX-110) after Conventional Radiation in Children with diffuse Intrinsic Pontine Gliomas

Research grant sponsored by Synthes 4/2011 – 4/2012

Role: Principle Investigator (\$26'659)

Title: Outcomes evaluation for RapidSorb in cases of Craniosynostosis

California Institute for Regenerative Medicine (CIRM) Grant (RFA 10-02), 4/2011 – 3/2014

Role: Co-Investigator (\$1'930'608)

Title: Development of single cell MRI technology using genetically-encoded iron-based reporters

Roche Hub Grant 10/2012 – 2/2014

Role: Principal Investigator (CHF 100'000)

Title: Tracking neurogenesis using novel Biomarker assays in Developmental Brain Disorders

Swiss National Science Foundation 6/2013 – 5/2016

Role: Principal Investigator (CHF 300'960)

Title: Therapeutic Relevance of stem cells for white matter regeneration in neonatal hypoxia-ischemia

Swiss National Science Foundation 10/2015 – 9/2018

Role: Co-Principal Investigator (CHF 372'000)

Title: Cold-inducible RBM3 in neuroprotection and neurogenesis

Department of Surgery, University of Basel 7/2016 – 6/2019

Role: Co-Principal Investigator (CHF 600'000)

Title: Bioengineering of scaffolds and matrix for central and peripheral nervous system regeneration

Novartis Innovation Fund 07/2017 – 06/2018

Role: Principle Investigator (CHF 60'000)

Title: Enhancement of oligodendrogenesis is indirectly mediated through the neural stem cell secretome

Swiss National Science Foundation (NMS1863)

Role: Co-Investigator (CHF 349'422)

Title: Characterization of Telomerase-mediated regulation of EGFR- and BMP/SMAD-signaling essential for proliferation and invasion in human brain tumors.

Kommission für Technologie und Innovation (KTI, 27395.1 PFLS-LS) 11/2017 – 10/2020

Role: Co-Investigator (CHF 800'000)

Title: Brain Shift Compensation

E. Invited Lectures

1. **Guzman R.** MRI in the rat model of Huntington's disease. (1998) *Scientific conference University of Washington, Dept. of Neurosurgery. Seattle, USA*
2. **Guzman R.** (1998) MRI in rat models of Neurodegenerative disease. *Neurologisch-Neurochirurgische Forschungskonferenz. Bern, Switzerland*
3. **Guzman R.** (1999) Growth Factor in Neural Transplantation: MRI in Neurodegenerative disease and Neural Transplantation. *BeNeFri PhD course, Bern, Switzerland*
4. **Guzman R.** (1999) Principles of MRI and application in small animals. *University of Odense, Dept. of Anatomy and Cell Biology, Odense, Denmark*
5. Laissue J, **Guzman R.** (2000) High dose multiple parallel microplanar X-irradiation of the suckling rat cerebellum: Long-term effects on brain structure and function. *Klinisch-Neurobiologische Forschungsrunde. Bern, Switzerland*

6. **Guzman R**, Barth A. (2003) Follow-up and management of residual Aneurysm neck. *Neurosurgery Winter meeting, Sils-Baselgia, Switzerland*
7. **Guzman R**. (2003) Diffusion weighted echo-planar imaging in brain abscess. *Neurosurgery Winter meeting, Sils-Baselgia, Switzerland*
8. **Guzman R**. (2005) MRI to study stem cell migration in the CNS. *Program Project Grant retreat, Stanford, USA*
9. **Guzman R** (2006) Non invasive stem cell imaging. *Stem cell imaging PhD course, Copenhagen, Denmark*
10. **Guzman R** (2006) Moyamoya disease: the starving brain. *Stanford Stroke Conference July 10, Stanford, USA*
11. **Guzman R** (2006) Current concepts for Stem cell therapy after Stroke. *Grand rounds, University of Graz, Department of Neurosurgery, Austria*
12. **Guzman R**. (2006) Post stroke inflammatory response and its role for intravascular stem cell delivery. *Program Project Grant retreat, Stanford, USA*
13. **Guzman R**. (2007) The role of volumetric interactive 3D in education, planning and navigation for aneurysm surgery. *Dextroscope Symposium, AANS, Washington DC, USA*
14. **Guzman R** (2007) Stem cell imaging in the developing and injured rodent brain. *Stem cell imaging PhD course, Copenhagen, Denmark*
15. **Guzman R** (2008) Long-term monitoring of transplanted human neural stem cells in developmental and pathological contexts. *5th International Stem Cell School in Regenerative Medicine 2008, Berlin, Germany*
16. **Guzman R** (2008) Minimally invasive approaches to stem cell delivery for stroke. *5th International Stem Cell School in Regenerative Medicine 2009, Odense, Denmark*
17. **Guzman R** (2009) Cerebrovascular Disease. *Grand Rounds, Children's Hospital and Research Center Oakland, June 30, Oakland, California*
18. **Guzman R** (2010) Experience with multimodality treatment of pediatric AVM. *Joint European –Japanese Meeting on Cerebrovascular Diseases, July 10, Düsseldorf, Germany.*
19. **Guzman R** (2010) Current concepts in TBI and the role of future technology. *Massachusetts institute of Technology, Boston, MA, September 2010*
20. **Guzman R** (2011) Management and Outcome of Pediatric Intracranial Arteriovenous Malformations. *34th Annual Meeting of the American Society of Pediatric Neurosurgeons, February 2011, Lanai HI*
21. **Guzman R** (2011) The role of revascularization surgery in the management of cerebrovascular disorders of the brain. *The Santa Clara Valley Brain Injury Conference, February 24-26, San Jose, California*
22. **Guzman R** (2011) New Aspects in Pediatric Neurosurgery. *Pediatric Grand Rounds, University of Basel, Switzerland, March 2011*
23. **Guzman R** (2011) Intravascular Stem Cell Therapy for Stroke, STEPS meeting, *Washington DC, December 2011*
24. **Guzman R** (2012) Human Neural Stem Cells Promote White Matter Repair and Reorganization in an Experimental Rodent Model of Cerebral Palsy. *Roche, Basel 2012*
25. **Guzman R** (2012) *Neural Stem Cell Injections in spinal cord injured patients, University of Zurich, Balgrist 2012*
26. **Guzman R** (2012) Management of occult spinal dysraphism, *University Childrens Hospital Basel 2012*
27. **Guzman R** (2012) Spinal deformity and role of the neurosurgeon. Spinal Deformity Symposium. *University Childrens Hospital Basel 2012*

28. **Guzman R** (2012) Human neural stem cell therapy for pediatric CNS disorders. Basel Stem Cell Network, *University of Basel 2012*
29. **Guzman R** (2012) Cell transplantation for white matter repair – is there hope? Danish Society for Neuroscience. Key note lecture, *Copenhagen, Denmark, 2012*
30. **Guzman R** (2012) Cell transplantation for white matter repair – is there hope? PhD Symposium, *Odense, Denmark, 2012*
31. **Guzman R** (2012) Spinal Dysraphism and Chiari Malformation, Grand Rounds, *University of Bern, Inselspital 2012*
32. **Guzman R** (2012) Intravascular Stem Cell Therapy for Stroke, Trans Pacific Workshop in Stroke (TPWS), *New Orleans September 2012*
33. **Guzman R** (2012) Pediatric Brain Tumors. Swiss Young Neurosurgeon Society (SYNS), *Bern Switzerland 2012*
34. **Guzman R** (2013) Cell transplantation for spinal cord injury, from bench to bedside. Swiss Stem Cell Network (SSCN), *University of Bern 2013*
35. **Guzman R** (2013) Cerebral Revascularisation in moyamoya disease, Neurology Grand Rounds, *University of Basel 2013*
36. **Guzman R** (2013) Posthemorrhagic Hydrocephalus in the Pre-Term, Hydrocephalus Workshop, *University of Zurich 2013*
37. **Guzman R** (2013) Cell transplantation for spinal cord injury, from bench to bedside. Grand Rounds, *University of Saskatchewan, Saskatoon, Canada 2012*
38. **Guzman R** (2013) Regenerative approaches in neurodevelopmental disorders. Swiss Society for Inborn Errors of Metabolism (SGIEM), *Lausanne 2013*
39. **Guzman R** (2013) Neurosurgical Challenges in NF1. Symposium on Neurocutaneous Disorders. *University Childrens Hospital, Basel 2013*
40. **Guzman R** (2013) Brain and Spine injuries: Options for the future. Grand Rounds. *Erasmus Hospital, Free University of Brussels, Belgium 2013*
41. **Guzman R** (2013) Behandlung von Hirn Tumoren bei Kleinkindern. *Symposium Pädiatrische Neuroonkologie, University Hospital Zürich 2013*
42. **Guzman R** (2014) Chirurgischer Beitrag zur Behandlung kindlicher Hirntumore, unter Einbezug möglicher zukünftiger Entwicklungen aufgrund aktueller Forschung. *Kinder Spital Zürich 2014*
43. **Guzman R** (2014) An update in pediatric neurosurgery. Pediatric Symposium, *Ospedale San Giovanni, Bellinzona 2014*
44. **Guzman R** (2014) White matter regeneration in neurodevelopmental disorders. Departement of Biomedicine Research Day 2014, Basel
45. **Guzman R** (2014) White matter regeneration in ischemic brain injury, University of Miami, Miami USA 2014
46. **Guzman R** (2014) Human Neural Stem Cell Transplantation in chronic SCI: Interim results of a Phase I/II Trial. Department of Neurosurgery Grand Rounds, University of Miami, Miami USA, 2014
47. **Guzman R** (2014) Scoliosis and associated CNS pathologies. German Orthopedic Surgery Annual Meeting, Baden-Baden, Germany 2014
48. **Guzman R** (2014) Neuroendoscopy for Hydrocephalus in Children. Annual meeting of the Swiss Society of Neurosurgery, Zürich 2014
49. **Guzman R** (2014) Stem cell transplantation in chronic spinal cord injury, interim results of a Phase I/II study. Grand Rounds Stanford University, Department of Neurosurgery, Stanford, CA, USA 2014
50. **Guzman R** (2015) Stem cell transplantation in chronic spinal cord injury, interim results of a Phase I/II study. Grand Rounds, Spinal Cord Injury Rehabilitation Center Basel, Switzerland

51. **Guzman R** (2015) Surgical management of spinal dysraphism. Annual Training Course of the German Spine Society. Bern, Switzerland
52. **Guzman R** (2016) Regenerative approaches in neonatal leukoencephalopathy. Grand Rounds Pediatric Neurology, University of Bern, Switzerland
53. **Guzman R** (2016) Treatment of dural Arteriovenous Malformations: The surgical perspective. Invited Symposium at the International Stroke Conference, Los Angeles, USA
54. **Guzman R** (2017) Intraarterial stem cell delivery in stroke – molecular aspects of transendothelial migration. Brain 2017, Berlin, Germany
55. **Guzman R** (2017) Neuroinflammation in brain ischemia University of Southern Denmark, Odense, Denmark
56. **Guzman R** (2017) Stem Cell Transplantation in Spinal Cord Injury. Danish Society for Spinal Cord Injury, Copenhagen, Denmark
57. **Guzman R** (2018) Dysraphien, Tethered Cord, Segmentationsstörungen. Deutsche Wirbelsäulen Gesellschaft, Bern
58. **Guzman R** (2018) Stammzellen zur Regeneration von Hirnschädigungen in der ersten Lebensphase, Brain Week Basel
59. **Guzman R** (2018) Stem Cells and white matter regeneration, Swiss Society of Neonatology Annual meeting, Bern
60. **Guzman R** (2018) Stroke and Neuroinflammation. Bench to Bedside Symposium, Basel
61. **Guzman R** (2018) Stem cell transplantation for the regeneration after hypoxic-ischemic brain injuries iPLASS meeting Bern, Switzerland
61. **Guzman R** (2018) Endogenous Neurogenesis as a potential target in stroke therapy. SIGN Conference, Warsaw, Poland
62. **Guzman R** (2018) Spinal Cord regeneration - Science or Fiction. Swiss Society for Neurosurgery Annual Meeting, Switzerland
63. **Guzman R** (2018) Transendothelial migration of stem cells after intraarterial injection: molecular mechanism and timing after stroke. American Society of neural transplantation (ASNTR), Clearwater, USA
61. **Guzman R** (2018) Intraarterial stem cell therapy and central immunomodulation in brain ischemia. Johns Hopkins University, Baltimore USA

F. Scientific Reviewer (Journals 2004-present)

Annals of Neurology

Cerebrovascular Diseases

Journal of Neuroscience Research

Journal of Neurosurgery

Journal of Neurosurgery Peds

Journal of Cerebral Blood Flow and Metabolism

Neurobiology of Disease

Neuroscience Letters

Neurosurgery

Stroke

Science Translational Medicine

PNAS

Plos One

Childs Nervous System

World Neurosurgery

G. Editorial Board

International Vascular Medicine 2009 – present

Recent Patents on Regenerative Medicine 2010-present

H. Society Memberships

Society for Neuroscience

American Association of Neurological Surgeons (AANS)

Congress of Neurological Surgeons (CNS)

AANS/CNS Joint Cerebrovascular Section

AANS/CNS Joint Pediatric Section

American Society for Pediatric Neurosurgery

European Society of Pediatric Neurosurgery

Swiss Society for Neuroscience

Swiss Neurosurgical Society

Cerebrovascular Working Group of Switzerland

BIBLIOGRAPHY

Manuscripts (Peer Reviewed):

1. Meyer M, Widmer HR, Wagner B, **Guzman R**, Evtouchenko L, Seiler RW and Spenger C. (1998) Comparison of mesencephalic free floating tissue culture grafts and cell suspension grafts in the 6-hydroxydopamine lesioned rat. *Experimental Brain Research* 119(3): 345-355 IF 2.195
2. **Guzman R**, Meyer M, Lövblad KO, Ozdoba C, Schroth G, Seiler RW and Widmer HR (1999) Striatal grafts in a rat model of Huntington's disease: time course comparison of MRI and histology. *Experimental Neurology* 156(1): 180-190 IF 3.974
3. **Guzman R** and Grady S (1999) Aneurysm on the feeding artery of a cerebellar hemangioblastoma: case report. *J. Neurosurgery* 91(1): 136-138 IF 2.124
4. **Guzman R**, Lövblad KO, Meyer M, Spenger C, Schroth G and Widmer HR (2000) Imaging the rat brain on a 1.5T clinical MR-scanner. *Journal of Neuroscience Methods* 97: 77-85 IF 2.092
5. **Guzman R**, Remonda L, Lövblad KO, Barth A and Schroth G. (2000) Iatrogenic rupture of a cerebral aneurysm on the feeding artery of an arteriovenous malformation. *Interventional Neuroradiology* 6: 141-145 IF 0.21
6. El-Koussy M, **Guzman R**, Bassetti C, Stepper F and Barth A, Lövblad KO and Schroth G. (2000) CT and MRI in acute hemorrhagic stroke. *Cerebrovascular Diseases* 10:480-482 IF 3.014
7. Schwerzmann M, Seiler C, Lipp E, **Guzman R**, Lövblad KO, Kraus M and Kucher N. (2001) Relation between directly detected patent foramen ovale and ischemic brain lesions in sport divers. *Annals of Internal Medicine* 134: 21-24 IF 17.457
8. Lövblad KO, Ruoss K, **Guzman R**, Schroth G and Fusch C. (2001) Diffusion-weighted MRI of middle cerebral artery stroke in a newborn. *Pediatric Radiology* 31(5):374-6 IF 1.186
9. Lövblad KO, Bassetti C, Schneider J, **Guzman R**, El-Koussy M, Remonda L and Schroth G. (2001) Diffusion-weighted MR in cerebral venous thrombosis. *Cerebrovascular Diseases* 11(3):169-76 IF 3.014
10. Taleb M, Lövblad KO, El-Koussy M, **Guzman R**, Bassetti C, Arnold M, Oswald H, Remonda L and Schroth G. (2001) Reperfusion demonstrated by apparent diffusion coefficient mapping after local intra-arterial thrombolysis for ischaemic stroke. *Neuroradiology* 43(7):591-4 IF 2.029
11. Gönner F, Lövblad KO, Heid O, Remonda L, **Guzman R**, Barth A and Schroth G. (2002) Magnetic resonance angiography with ultra short echo times reduces the artefact of aneurysm clips. *Neuroradiology* 44:755-758 IF 2.029
12. Lövblad KO, Schneider J, Bassetti C, El-Koussy M, **Guzman R**, Heid O, Remonda L and Schroth G. (2002) Fast contrast-enhanced whole-brain venography. *Neuroradiology* 44: 681-688 IF 2.029
13. **Guzman R**, Barth A, Lövblad KO, El-Koussy M, Weis J, Schroth G and Seiler RW (2002) Diffusion-weighted MR imaging for differentiation of purulent brain processes from cystic brain tumors. *Journal of Neurosurgery* 97:1101-1107 IF 2.124
14. **Guzman R**, Remonda L and Barth A. (2003) Angiographically undetected aneurysm in the neck remnant after endovascular coiling. *Acta Neurochirurgica*, 145: 815-17 IF 1.634
15. Mariani L, Siegenthaler P, **Guzman R**, Fathi AR, Friedrich D, Ozdoba C, Weis J, Ballinari P and Seiler RW (2004) The impact of tumor volume and surgery on the outcome of adults with supratentorial WHO grade II astrocytic tumors. *Acta Neurochirurgica* 146(5):441-8. IF 1.634
16. **Guzman R**, Dubach-Schwizer S, Heini P, Lovblad KO, Kalbermatten D, Schroth G and Remonda L (2005) Preoperative transarterial embolization of vertebral metastases. *European Spine Journal* 14(3), 263-268 IF 2.396
17. **Guzman R**, Lövblad KO and Barth A. (2005) Persistent primitive hypoglossal artery demonstrated with MR first pass and digital subtraction angiography. *JBR-BTR*, 88(3): 134-135

18. Gralla J, **Guzman R**, Remonda L and Kiefer C (2005) High-resolution three-dimensional T2-weighted sequence for neuronavigation: a new setup and clinical trial. *Journal of Neurosurgery* ;102(4):658-63 IF 2.124
19. Mordasini P, Schroth G, **Guzman R**, Seiler R, Barth A and Remonda L (2005) Endovascular treatment of posterior circulation cerebral aneurysms using Guglielmi detachable coils: A 10-year single center experience with special regard to the technical development. *American Journal of Neuroradiology*, 26(7):1732-1738 IF 2.745
20. Christe A, Laubli R, **Guzman R**, Berlemann U, Moore RJ, Schroth G, Vock P and Lovblad KO (2005) Degeneration of the cervical disc: histology compared with radiography and magnetic resonance imaging. *Neuroradiology*, 47(10): 721-729 IF 2.029
21. Kelly ME, Fourney DE, **Guzman R**, Sadanand V, Griebel RW and Sanche SE (2006) Propionibacterium acnes infections after cranial neurosurgery. *Canadian Journal of neurological sciences*, 33(3): 292-295 IF 2.124
22. Lad SP, **Guzman R**, Kelly ME, Li G, Lim M, Lovblad KO and Steinberg GK (2006) Cerebral perfusion imaging in vasospasm: an overview. *Neurosurg Focus*. 2006 Sep 15;21(3):E7.
23. Barth A, **Guzman R**, Mordasini P, Andres RH, Barth L and Widmer HR (2006) Experimental intracerebral hematoma in the rat. *Restorative Neurology and Neuroscience*, 2007 25(1): 1-7 IF 1.978
24. Bliss T, **Guzman R**, Daadi M and Steinberg GK (2007) Cell Transplantation therapy for stroke. *Stroke*. 2007 Feb;38(2):817-26 IF 6.499
25. Kelly ME, Schultke E, Fiedler S, Nemoz C, **Guzman R**, Corde S, Esteve F, Leduc G, Juurlink BH and Meguro K (2007). Synchrotron-based intravenous cerebral angiography in a small animal model. *Phys Med Biol*. 2007 Feb 21;52(4):1001-12. IF 2.784
26. **Guzman R**, Uchida N, Bliss T, He D, Christopherson K, Stellwagen D, Capela A, Greve J, Malenka R, Moseley M, Palmer T and Steinberg GK (2007). Biology of human neural stem cells is preserved after magnetic nanoparticle labeling. *Proc Natl Acad Sci U S A*. 2007 Jun 12;104(24):10211-6 IF 9.38
27. Andres RH, **Guzman R**, Weis J, Schroth G and Barth A. (2007) Granuloma formation and complete thrombosis after gauze wrapping of an unruptured aneurysm. *Acta Neurochir (Wien)*. 2007;149(9):953-8 IF 1.634
28. **Guzman R**, Bliss T, Greve J, Moseley M, Palmer T and Steinberg GKS (2008) Neural progenitor cells transplanted into the uninjured brain undergo targeted migration after stroke onset. *J Neurosci Res*, 86(4):873-82 IF 3.08
29. Holdsworth SJ, Skare S, Newbould RD, **Guzman R**, Blevins N and Bammer R (2008) Readout-Segmented EPI for Rapid High Resolution Diffusion Imaging at 3T. *Eur J Radiol*. 65(1):36-46. IF 2.339
30. **Guzman R**, De Los Angeles A, Cheshier S, Choi R, Hoang S, Liauw J and Steinberg G (2008) Intracarotid injection of FACS-sorted CD49d positive neural stem cells improves targeted cell delivery and behavior after stroke in a mouse stroke model. *Stroke* 39(4):1300-6 IF 6.499
31. Veeravagu A, **Guzman R**, Patil CG, Hou LC, Lee M and Steinberg GK (2008) Moyamoya disease in pediatric patients: outcomes of neurosurgical interventions. *Neurosurg Focus* 2008; 24: 2: E16
32. Shohet MR, Laedrach K, **Guzman R** and Raveh J (2008) Advances in approaches to the cranial base: minimizing morbidity. *Facial Plast Surg*; 24: 1: 129-34
33. **Guzman R**, Choi R, Gera A, De Los Angeles A, Andres RH and Steinberg GK (2008) Intravascular cell replacement therapy for stroke. *Neurosurg Focus* 2008; 24: 3-4: E15
34. **Guzman R**, Altrichter S, El-Koussy M, Gralla J, Weis J, Barth A, Seiler RW, Schroth G and Lovblad KO (2008) Contribution of the apparent diffusion coefficient in perilesional edema for the assessment of brain tumors." *J Neuroradiol* 2008; 35(4):224-9. IF 1.429
35. Andres RH, **Guzman R**, Ducray AD, Mordasini P, Gera A, Barth A, Widmer HR and Steinberg GK (2008) Cell replacement therapy for intracerebral hemorrhage. *Neurosurg Focus* 2008; 24: 3-4: E16

36. Kelly ME, **Guzman R**, Sinclair J, Bell-Stephens TE, Bower R, Hamilton S, Marks MP, Do H, Chang SD, Adler JR, Levy RP and Steinberg GK (2008). Multimodality treatment of posterior fossa arteriovenous malformations. *J Neurosurgery* 108(6), 1152-61
IF 2.124
37. **Guzman R**, Lovblad KO, Altrichter S, Remonda L, de Koning P, Andres RH, El-Koussy M, Kelly ME, Reiber JH, Schroth G, Oswald H and Barth A (2008) Clinical validation of an automated vessel-segmentation software of the extracranial-carotid arteries based on 3D-MRA: a prospective study. *J of Neuroradiol.* 2008 Dec;35(5):278-85 IF 1.429
38. Andres RH, Barth A, **Guzman R**, Remonda L, Schroth G and Seiler RW (2008) Endovascular and surgical treatment of spinal dural arteriovenous fistulas. *Neuroradiology* 50(10): 869-76
IF 2.029
39. Liauw J, Hoang S, Choi M, Eroglu C, Choi M, Sun GH, Percy M, Wildman-Tobriner B, Bliss T, **Guzman R**, Barres BA and Steinberg GK (2008) Thrombospondins 1 and 2 are necessary for synaptic plasticity and functional recovery after stroke *JCBFM* 28(10): 1722-32
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Book Chapters:

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