

BIOGRAPHICAL SKETCH

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NAME Mark S. Borchert, M.D.	POSITION TITLE Associate Professor of Clinical Ophthalmology and Neurology		
eRA COMMONS USER NAME			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Pomona College, Claremont, CA	BA	1976	Zoology
Baylor College of Medicine, Houston, TX	MD	1983	Medicine
Boston City Hospital, Boston, MA	Intern	1984	Internal Medicine
LAC/USC Medical Center, Los Angeles, CA	Resident	1987	Ophthalmology
Massachusetts Eye & Ear Infirmary, Boston, MA	Fellow	1988	Neuro-Ophthalmology

A. Positions and Honors**Positions and Employment**

- 1984 – 1987 Medical Residency, Ophthalmology, LAC/USC Medical Center, Los Angeles, CA
 1987 – 1988 Fellowship, Neuro-ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA
 1987 – 1988 Lecturer in Neuro-ophthalmology, Harvard School of Medicine
 1988 - present Lecturer in Neuro-ophthalmology, third year medical students, USC School of Medicine, Los Angeles, CA
 1988 - Lecturer in Ophthalmology, Ophthalmology medical student rotation (monthly), USC School of Medicine, Los Angeles, CA
 1988 – 1992 Examiner, OSCE Program, fourth-year medical students, USC School of Medicine, Los Angeles, CA
 1988 – 1994 Assistant Professor of Ophthalmology and Neurology, USC School of Medicine; Division of Ophthalmology, Childrens Hospital, Los Angeles, CA
 1988 - Lecturer in Ophthalmology and Neuro-ophthalmology, Ophthalmology Residents, USC School of Medicine, Los Angeles, CA
 1994 - Associate Professor of Ophthalmology and Neurology, USC, Keck School of Medicine, Los Angeles, CA
 2001 - Head, Division of Ophthalmology, Children's Hospital, Los Angeles, CA

Honors and Awards

- Pan American Association of Ophthalmology
 Resident Teaching Award, USC School of Medicine (1991-1994, 1996, 1999, 2001)
 Society of Heed Fellows
 The Best Doctors in America Award

B. Selected peer-reviewed publications

- Borchert MS**, Sadun AA, Sommers JD, Wright KW. Congenital ocular motor apraxia in twins. Findings with magnetic resonance imaging. *J Clin Neuroophthalmol* 1987;7:104-107.
- Sadun AA, **Borchert M**, DeVita E, Hinton DR, Bassi CJ. Assessment of visual impairment in patients with Alzheimer's disease. *Am J Ophthalmol* 1987;104:113-120.
- Schwartz SD, **Borchert M**, Oberman A. Hypopyon keratouveitis in acute angle-closure glaucoma. *Am J Ophthalmol* 1987;104:430-431.
- Borchert M**, Sadun AA. Bright light stimuli as a mask of relative afferent pupillary defects. *Am J Ophthalmol* 1988;106:98-99.
- Borchert MS**, Lessell S. Progressive and recurrent nonarteritic anterior ischemic optic neuropathy. *Am J Ophthalmol* 1988;106:443-449.

6. Wagner WH, Weaver FA, Brinkley JR, **Borchert M**, Lindsay SF. Chronic ocular ischemia and neovascular glaucoma: a result of extracranial carotid artery disease. *J Vasc Surg* 1988;8:551-557.
7. Gangadhar DV, Johnson LN, **Borchert M**. Isolated weakness of the orbicularis oculi muscle from myasthenia gravis. *Neuro-ophthalmology* 1989;9:327-329.
8. Branley MG, Wright KW, **Borchert MS**. Third nerve palsy due to cerebral artery aneurysm in a child. *Aust NZ J Ophthalmol* 1992;20:137-140.
9. Rismondo V, **Borchert M**. Position-dependent Parinaud's syndrome. *Am J Ophthalmol* 1992;114:107-108.
10. Stout AU, Borchert M. Etiology of eyelid retraction in children: a retrospective study. *J Pediatr Ophthalmol Strabismus* 1993;30:96-99.
10. Gonzalez VH, Ober RR, **Borchert MS**, Bui KC, Ramos AD, Stout AU. Ocular findings in neonates after extracorporeal membrane oxygenation. *Retina* 1993;13:202-207.
11. Aiello A, Wright KW, **Borchert M**. Independence of optokinetic nystagmus asymmetry and binocularity in infantile esotropia. *Arch Ophthalmol* 1994;112:1580-1583.
12. **Borchert M**, McCulloch D, Rother C, Stout AU. Clinical assessment, optic disk measurements, and visual-evoked potential in optic nerve hypoplasia. *Am J Ophthalmol* 1995;120:605-612.
13. **Borchert MS**, Lessell S, Hoyt WF. Hemifield slide diplopia from altitudinal visual field defects. *J Neuroophthalmol* 1996;16:107-109.
14. Legmann Simon A., **Borchert M**. Etiology and prognosis of acute, late-onset esotropia. *Ophthalmology* 1997;104:1348-1352.
15. Edelman PM, **Borchert MS**. Visual outcome in high hypermetropia. *J AAPOS* 1997;1:147-150.
16. Rostomian K, Thach A, Isfahani AK, Pakkar A, Pakkar R, **Borchert M**. Open globe injuries in children. *J AAPOS* 1998;2:234-238.
17. McCulloch DL, Van Boemel GB, **Borchert MS**. Comparisons of contact lens, foil, fiber and skin electrodes for patterns electroretinograms. *Doc Ophthalmol* 1997-8;94:327-340.
18. Cinciripini GS, Donahue S, **Borchert MS**. Idiopathic intracranial hypertension in prepubertal pediatric patients: characteristics, treatment, and outcome. *Am J Ophthalmol* 1999;127:178-182.
19. Ott S, **Borchert M**, Chung M, Appukuttan B, Wang X, Weinberg K, Stout JT. Exclusion of candidate genetic loci for Duane's retraction syndrome. *Am J Ophthalmol* 1999;127:358-360.
20. **Borchert MS**, Storrie-Lombardi MC, Lambert JL. A noninvasive glucose monitor: preliminary results in rabbits. *Diabetes Technol Ther* 1999;1:145-151.
21. Hwang JM, Matsumoto E, **Borchert MS**. The relationship between stereopsis and monocular optokinetic nystagmus after infantile cataracts. *J AAPOS* 1999;3:221-226.
22. Appukuttan B, Gillanders E, Juo SH, Freas-Lutz D, Ott S, Sood R, Van Auken A, Bailey-Wilson J, Wang X, Patel RJ, Robbins CM, Chung M, Annett G, Weinberg K, **Borchert MS**, Trent JM, Brownstein MJ, Stout JT. Localization of a gene for Duane retraction syndrome to chromosome 2q31. *Am J Hum Genet* 1999;65:1639-1646.
23. Chung M, Stout JT, **Borchert MS**. Clinical diversity of hereditary Duane's retraction syndrome. *Ophthalmology* 2000;107:500-503.
24. Lambert JL, Morookian JM, Sirk S, **Borchert MS**. Measurement of aqueous glucose in a model anterior chamber using Raman spectroscopy. *J Raman Spectroscopy* 33:524-529, 2002.
25. Mitchell WG, Davalos-Gonzalez Y, Brumm VL, Aller SK, Burger E, Turkel SB, **Borchert MS**, Hollar S, Padilla S. Opsoclonus-ataxia caused by childhood neuroblastoma: developmental and neurologic sequelae. *Pediatrics* 2002;109:86-98.
26. Pelletier CC, Lambert JL, **Borchert M**. Determination of glucose in human aqueous humor using Raman spectroscopy and designed-solution calibration. *Applied Spectroscopy* 59(8), 2005, 1024-1031.
27. **Borchert M**, Lambert J, Sliney D. Validation of ICNIRP estimates of toxicity thresholds for NIR (785nm) light in the retinas of pigmented rabbits. *Health Physics* (in press)
28. Lambert JL, Pelletier CC, **Borchert M**. Glucose determination in human aqueous humor with Raman spectroscopy. *Journal of Biomedical Optics* 10, 2005, 031110-1 through 031110-8.
29. Ahmad T, Garcia-Filion P, **Borchert M**, Kaufman F, Burkett L, Geffner M. Endocrinological and auxological abnormalities in children with optic nerve hypoplasia: A prospective study. *Journal of Pediatrics*, (in press).
30. McCulloch DL, Garcia-Filion P, VanBoemel GV, **Borchert M**. Retinal Dysgenesis in optic nerve hypoplasia (ONH), evidence from flash and pattern ERG's. *Eye* (in press).

Principal Investigator/Program Director (Last, First, Middle):

31. La Via W, Lambert J, Pelletier M, Morookian J, Sirk S, Mickiene D, Walsh T, **Borchert M.** Measurement of Amphotericin B concentration by resonant Raman spectroscopy – a novel technique that may be useful for non-invasive monitoring. *Medical Mycology* (in press TMMY-0079-2005.R1).

C. Research Support

Ongoing Research Support

Borchert (PI) 07/01/00 – 06/30/06
One Small Voice Foundation
ONH Research Program
Role: Principal Investigator

Borchert (PI) 11/01/03 – 10/31/05
Genentec
Endocrine Dysfunction and Growth Immunodeficiency in Children with ONH
Role: Principal Investigator

Subcontract Ey014472-04 Varma (PI) 09/30/02 – 09/27/07
NIH
Multiethnic Pediatric Eye Disease Study (MEPEDS)

Completed Research Support

Subcontract 1236355 Borchert (PI) 10/01/03 – 09/30/04
NASA/Jet Propulsion Laboratory
The Pharmacokinetics of Fenretinide in Plasma, Cerebrospinal Fluid, and Aqueous Humor
The major goal of this project was to determine the relationship of CSF and aqueous humor permeability to chemotherapeutic agents as measured by Raman spectroscopy.
Role: Principal Investigator

Subcontract 1224867 Borchert (PI) 10/11/99 – 09/30/02
NASA/Jet Propulsion Laboratory
In Vivo Test of an Optical Glucose Monitor
The major goal of this project was to correlate measurements of aqueous humor glucose through Raman spectroscopy with plasma glucose.
Role: Principal Investigator

Subcontract 1234471 Borchert (PI) 09/28/01 – 09/30/02
NASA/Jet Propulsion Laboratory
Eye Tracking to Determine Visual Acuity from Amblyopia Screening
The major goal of this project was to test the feasibility of a computerized forced-choice preferential looking test in measuring visual acuity of pre-verbal children.
Role: Principal Investigator

Subcontract 1251250 Borchert (PI) 10/11/99 – 1/31/04
NASA
Raman Glucose Assay Development and Testing
Role: Principal Investigator