

CURRICULUM VITAE

Carl P. Boesel, MD

EDUCATION:

Premedical:

Miami University, Oxford, Ohio
Major Field of Study: Zoology
A.B.: June 1962
Magna Cum Laude, Phi Beta Kappa

Medical:

University of Cincinnati College of Medicine
Cincinnati, Ohio
MD: June 1966

Postgraduate Medical:

The Ohio State University
Columbus, Ohio
MS (Pathology): June 1971

POSTGRADUATE TRAINING:

Internship in Pathology

Department of Pathology, The Ohio State University
Columbus, Ohio: July 1966 – June 1967

Residency in Anatomic Pathology

Department of Pathology, The Ohio State University
Columbus, Ohio: July 1967 – December 1969
(Pediatric Pathology rotation at Columbus Children's Hospital from July
1967 – December 1967)

Residence in Neuropathology

Department of Pathology, Neuropathology Division
The Ohio State University, Columbus, Ohio
January 1970 – June 1971

POSITIONS:

Laboratory Assistant, General Zoology
Miami University, Oxford, Ohio
1959 – 1960

Instructor in Zoology
Miami University, Oxford, Ohio
(Organized course in general zoology, gave lectures and labs)
Summer (2 semesters) 1963

Fellow in Neuropathology
Armed Forces Institute of Pathology
Neuropathology Branch: Washington, DC
August 1971 – April 1972

Consult Neuropathologist
National Naval Medical Center
Bethesda, Maryland
1972 – 1973

Associate Pathologist
Neuropathology Branch: AFIP: Washington, DC
May 1972 – August 1973
Pathologist, Columbus Children's Hospital
1973 – 1980

Clinical Assistant Professor
Department of Pathology
The Ohio State University
August 1973 – 1979
Clinical Associate Professor
July 1979 – September 1980

Associate Professor
Wright State University
September 1980 – June 1984

Positions Cont'd

Associate Processor of Clinical Pathology
The Ohio State University
July 1984 – June 1993

Professor, Clinical
The Ohio State University
Department of Pathology
July 1993 – July 2000
Emeritus Professor, Clinical – present status

Chief, Section of Anatomic Pathology
Columbus Children's Hospital
July 1990 – June 1993

Director of Medical Education, Pathology
The Ohio State University
July 1993 – 1998

Adjunct Instructor
Otterbein College
Department of Life Science
Teaching Pathophysiology in Nursing School
Autumn 2000 – 2003

Pathologist
Nationwide Children's Hospital (aka Columbus Children's Hospital)
Department of Anatomic Pathology
October 2000 - present

AWARDS

Phi Beta Kappa
Miami University – 1961

Resident Education Award (given by pathology residents)
The Ohio State University 1986 – 1987 and 1989 – 1990

First annual Pathology Teaching Award, by the Med II class, 1998

Faculty Teaching Award, The Ohio State University College of Medicine and
Public Health, 2000

MILITARY STATUS

Honorable discharge 1981
Former Major, United States Air Force, Medical Corps
Neuropathology Branch, AFIP
Active Duty: August 8, 1971 – August 7, 1973
Reserve (inactive) 1973 – 1981

PROFESSIONAL SOCIETIES

Pediatric Pathology Society
American Association of Neuropathologists
Canadian Association of Neuropathologists (inactive)
Member, Medical Advisory Board, National Tuberos
Sclerosis Association , 1978 – 1986
President, Central Ohio Society of Pathologists, 1989 – 1990

MAJOR INTERESTS

Pediatric and adult brain tumors (morphologic diagnosis)
General diagnostic neuropathology
Pediatric pathology
Pediatric neuropathology
Medical education (especially test item writing)

BOARD CERTIFICATION:

American Board of Pathology
Anatomic Pathology – Diplomat, May 1971
Neuropathology – Diplomat, May 1972
Pediatric Pathology – Diplomat, November 1990

MEDICAL LICENSURE:

State of Ohio, 1986: License 029325
Registered in Franklin and Montgomery Counties

CONSULTING POSITIONS

1. Former reviewer Retinoblastoma studies, Children's Cancer Study Group and member Retinoblastoma Committee
2. Former member, Medical Advisory Board, National Tuberos Sclerosis Association

Consulting cont'd

3. Former reviewer 943 Astrocytoma and 944 Brain Stem Glioma studies, Children's Cancer Study Group
4. Former reviewer, Brain Tumor Epidemiology Studies, Children's Cancer Study Group (E-19)
5. Formerly Evaluation of Second Neoplasms Following AFF (CCG-S59)
6. Chairman Curriculum Committee, Independent Study Program, The Ohio State University, 1989 – 1990
7. Module Author, Pathologic Mechanisms, I.S.P., 1986 – 1990, 1993 – 2000
8. Member Test Material Development Committee, Pathology, National Board Of Medical Examinees, 1995 – 1997
9. Member Editorial Board, Journal of Neuropathology and Experimental Neurology, 1995 – 1997
10. Submodule Author, Central Nervous System, I.S.P., revised January 1995
11. Member Neuroscience Task Force, National Board of Medical Examiners, 1998 – 2004
11. Member Step 1 Neuroscience Committee, National Board of Medical Examiners, 1998 – 2003

BIBLIOGRAPHY

Articles in refereed journals:

1. Paulson, G.W., **Boesel, C.P.**, and Evans, W.E.: Fibromuscular dysplasia. *Arch. Neurol.*, 35:287-290, 1978
2. Kosnik, E.J., **Boesel, C.P.**, Bay, J., and Sayers, M.P.: Primitive neuroectodermal tumors of the central nervous system in children. *J. Neurosurg.*, 48:741-746, 1978.
3. **Boesel, C.P.**, Suhan, J.P. and Bradel, E.J.: Ultrastructure of primitive neuroectodermal Neoplasms of the central nervous system. *Cancer*, 42:194-201.

Bibliography cont'd

4. **Boesel, C.P.**, Suhan, J.P., and Sayers, M.P.: Melanotic Medulloblastoma. Report of a case with ultrastructural findings. *J. Neuropathol. Exp. Neurol.*, 37:531-543, 1978.
5. **Boesel, C.P.**, and Suhan, J.P.: A pigmented choroid plexus carcinoma. Histochemical and ultrastructural studies. *J. Neuropathol. Exp. Neurol.*, 38:177-186, 1979
6. Yates, A., Thompson, D., **Boesel, C.**, Albrightson, C. and Hart, R.: Lipid composition of human neural tumors. *J. Lipid Research*, 20:428-436, 1979
7. **Boesel, C.P.**, Paulson, G.W., Kosnik, E.J., and Earle, K.M.: Brain hamartomas and tumors associated with tuberous sclerosis. *Neurosurgery*, 4:410-417, 1979
8. Bachman, D.S., Kosnik, E.J., **Boesel, C.P.**, and Sotos, J.F.: Congenital anophthalmia associated with intracranial germinoma. *Devlop. Med. Child Neurology*, 22:778-791, 1980
9. Baker, P.B., Baba, N., **Boesel, C.P.**: Cardiovascular abnormalities in progeria, case report and review of the literature. *Arch. Pathol. Lab. Med.*, 105:384-386, 1981
10. Klutzow, F.W., Ohata, C., **Boesel, C.P.**, Dudley, A.W., Pietro, D.A., and Romero, J.A.: Sudden Infant Death Syndrome. *Milit. Med.*, 149:502-505, 1984
11. Jenkins, R.D.T., **Boesel, C.P.**, et al: Brain-stem tumors in childhood: a prospective randomized trial of irradiation with and without adjuvant CCNU, VCR, and prednisone. A report of the Children's Cancer Study Group, *J. Neurosurg*, 66:227-233, 1987.
12. Kissel, J.T., Kolkin, S., Chakeres, D., **Boesel, C.P.**, and Weiss, K: Magnetic Resonance Imaging in a Case of Autopsy-Proved Adult Subacute Necrotizing Encephalomyelopathy (Leigh's Disease). *Arch Neurol*, 44:563-566, 1987.
13. Sposto, R., Ertel, I., Jenkin, R.D.T., **Boesel, C.P.**, Venes, J.L., Ortega, J.A.: The effectiveness of chemotherapy for treatment of high-grade astrocytoma in children. *J. Neruo-Oncol.*, 7:165-177, 1989

Bibliography cont'd

14. Curtin, A., Chakeres, D., Bulas, R., **Boesel, C.P.**, Finneran, M., and Flint, E.: Magnetic Resonance Imaging Artifacts of the Axial Internal Anatomy of the Cervical Spinal Cord. *Am. J. Roentgenology*, 4:835-842, 1989
15. Clendenon, N.R., Barth, R.F., Gordon, W.A., Goodman, J., Alam, F., Staubus, A.E., **Boesel, C.P.** Yates, A.J., Mueschberger, M.L., Fairchild, R.G., et al: Boron neutron capture therapy of a rat Glioma. *Neurosurgery*, 1:47-55, Jan. 1990.
16. Allenby, P.A., **Boesel, C.P.** Marsh, W.L., Jr.: Diffuse Angiomatosis of the Extremities Presenting as a Sarcoma. *Arch Pathol Lab Med*, 114:987-990, 1990.
17. Qualman, S.J., **Boesel, C.P.**.: Demyelinating Disease with Plaques of Central Nervous System. *Pediat. Pathol*, 11:171-176.
18. Lo, W.D., McNeely, D.L., **Boesel, C.P.**.: Blood-Brain Barrier Permeability in an Experimental Model of Bacterial Cerebritis. *Neurosurgery*, 29:888-892, 1991.
19. Qualman, S.J., Shannon, B.T., **Boesel, C.P.** Jacobs, D., Jinkens, C., and Hayes, J.: Ploidy Analysis and Cerebrospinal Fluid Nephelometry as measures of Clinical Outcome in Childhood Choroid Plexus Neoplasia. *Pathology Annual Part 1*, Vol 27:305-320, 1992.
20. Olmos, P.R., Falko, J.M., Rea, G.L., **Boesel, C.P.**, Chakeres, D.W., and McGhee, D.B: Fibrosing Pseudotumor of the Sella and Parasellar Area Producing Hypopituitarism and Multiple Cranial Nerve Palsies. *Neurosurgery*, 32:1015-1021, June 1993
21. Kuijten, R.R., Strom, S.S., Rorke, L.B., **Boesel, C.P.**, Buckley, J.D., Meadows, A.T. and Bunin, G.R.: Family History of Cancer and Seizures in Young Children with Brain Tumors; A Report from the Children's Cancer Group. *Cancer Causes and Control*, 4:455-464, 1993
22. Tsao, C.Y., **Boesel, C.P.**, and Wright, F.S.: A Hypotonic Infant with Complete Deficiencies of Acid Maltase and Debrancher Enzyme. *J. Child Neurol.*, 9:90-91, 1994.
23. Bunin, G.R., Kuijten, R.R., **Boesel, C.P.**, Buckley, J.D. and Meadows, A.T.: Maternal Diet and Risk of Astrocytic Glioma in Children; A Report from the Children's Cancer Group. *Cancer Causes and Control*, 5:177-187, 1994.

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24. Bunin, F.R., Buckley, J.D., **Boesel, C.P.**, Rorke, L.B. and Meadows, A.T.: Risk factors for astrocytic Glioma and primitive neuroectodermal tumor of the brain in young children; A report from the Children's Cancer Group, *Cancer Epidemiology Biomarkers Prev.* 3:197-204, 1994
25. Tsao, C.Y., Wright, F.S., **Boesel, C.P.**, and Luquette, M: Partial NADH dehydrogenase defect presenting as spastic cerebral palsy. *Brain and Development*, 16:393-395, 1994
26. Singh, S.P., Cottingham, S.L., Slone, W., **Boesel, C.P.**, Welling, B., and Yates, A.J.: Lipomas of the Internal Auditory Canal. *Arch Pathol Lab Med*, 120:681-683, 1996.
27. Bond, C., Si, X., Crisp, M., Wong, P, Paulson, G.W., **Boesel, C.P.**, Dlouhy, S.R. and Hodes, M.E.: Family with Pelizaeus-Merzbacher disease/X-linked spastic paraplegia and a nonsense mutation in exon 6 of the proteolipid protein gene. *Amer J. Med. Genet.* 71:357-60, 1997
28. Yates, A.J., Franklin, T.K., McKinney, P., Collins, R., Comas, T., **Boesel, C.P.**, and Pearl, D.K.: Gangliosides and neutral glycolipids in ependymal, neuronal and primitive neuroectodermal tumors. *J. Mol Neurosci.* 12:111-21, 1999
29. Barth, R.F., Yang, W., Rotaru, J.H., Moeschberger, M.L., **Boesel, C.P.**, Soloway, A.H., Joel, D.D., Nawrocky, M.M., Ono, K. and Goodman, J.H.: Boron neutron capture therapy of brain tumors: enhanced survival and cure following blood-brain barrier disruption and intracarotid injection of sodium borocaptate and boronophenylalanine, *Int J. Radiat Oncol Biol Phys.* 47:209-18, 2000.
30. Goodman, H.H., Yang, W., Barth, R.F., Gao, Z., **Boesel, C.P.**, Stabus, A.E., Gupta, N., Gahbauer, R.A., Adams, D.M., Gibson, C.R., Ferketich, A.K. Moeschberger, M.L., Soloway, A.H., Carpenter, D.E., Albertson, B.J., Bauer, W.F., Zhang, M.Z. and Wang, C.C.: Boron neutron capture therapy of brain tumors: biodistribution, pharmacokinetics, and radiation dosimetry sodium borocaptate in patients with gliomas, *Neurosurgery* 47:608-21, 2000.
31. Yang, W., Barth, R.F., Rotaru, J.H., **Boesel, C.P.**, Wilkie, D.A., Breshahan, J.C. Hadjiconstantinou, M.Goettl, V.M., Joel, D.D. and Nawrocky, M.M.: Boron neutron capture therapy of brain tumors: functional and neuropathologic effects of blood-brain barrier disruption and intracarotid injection of sodium borocaptate and boronophenylalanine. *J. Neurooncol.* 48:179-90, 2000.

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32. Singh, V., **Boesel, C.P.**, and Baker, P.: Septo-optic dysplasia and dentate-olivary dysplasia in a case of 18q deletion/3p trisomy. *Clin Neuropathol.* 23:28-33, 2004
33. Besner, G.E., Bates, G.D., **Boesel, C.P.**, Singh, V., Welty, S.E., and Corpron, C.A.: Total absence of the small bowel and a premature neonate. *Pediatr Surg Int.* 21:396-9 2005.

BIBLIOGRAPHY (OTHER)

1. **Boesel, C.P.**: Ultrastructure of a glioblastoma strain in vitro. Master's Thesis, The Ohio State University, Columbus, Ohio, June 1971.
2. Entel, I.J. and **Boesel, C.P.**: Brain tumors in children, *Pediatrics Annuals.* 7-90-101, 1978.
3. **Boesel, C.P.**, Suhan, J.P., and Sayers, M.P.: Melanotic medulloblastoma: Report of a case with ultrastructural findings. *Lab. Invest.* 38:-383, 1978 (Abst.)
4. **Cutler, E.A.**, Bass, J., Romshe, C.A., Hamoudi, A.B., **Boesel, C.P.**, Bachman, D., Kontras, S.B., and Sotos, J.F.: "A familial thyrocerebral-renal syndrome: a newly-recognized disorder". In *Recent Advances and New Syndromes.*
5. **Boesel, C.P.**: Nervous System Tumors of Infancy and Childhood. 100 slide (color transparency) teaching set with 24 page syllabus. *Editorial Enterprises Corporation, Inc.*, Gainesville, Florida, Publ. March 31, 1980.
6. Cerebellar Astrocytoma, American Society of Clinical Pathologists. Tumor Diagnosis and Treatment, Check Sample #TD-37, Distributed Spring, 1981.
7. Medulloblastoma. A.S.C.P. Tumor Diagnosis and Treatment. Check Sample #TD-38, Distributed Spring, 1981.
8. **Boesel, C.P.**, Shim, C.H.: "Improving the fixation of neural tumors". *Lab Invest*, 46-2P, 1982 (Abst.)
9. Wolff, J.A., et. Al: Treatment of retinoblastoma, a preliminary report. International Congress Services, #570, *Pediatric Oncology, Excerpta Medica*, pp. 364-368, 1982.
10. Andrzejewska, W.M., Chakeres, D., Yates, A., **Boesel, C.**, Blandeau, J: Correlation of Biochemical and Histological Analyses of Magnetic Resonance Imaging of Normal and Diseased (infarcts, tumors) Human Brain Fixed in Formalin. *Magnetic Resonance Imaging* 5, suppl. 1:16, 1987 (Abst.)

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11. **Boesel, C.P.**, and Landas, S.K. Surgical pathology: A Collection of Gross Photographs. The Ohio State University, Division of Surgical pathology, 750 Kodachrome slides, 1988.
12. Barth, R.F., Soloway, A.H., Alam, F., Adams, D.M., Clendenon, N. Goodman, H.H., Gahbauer, R. Stubus, A.E., Blue, T.E., Courteny-Roberts, T., **Boesel, C.**, Yates, A.J., Mafune, N., Carey, W., Talnagi, J.W., Girvin, J.R., Stevens, R., and Moeschberger, M.: Research related to boron neutron capture at The Ohio State University, *Brookhaven Nat'l Lab Rpt*, (BNL 51994) Jan: 42-44, 1986.
13. Barth, R.F., Soloway, A.H., Alam, F., Clendenon, N.R., Blue, T., Nafune, N., Goodman, J.H., Gordon, W., Bapat, B., Adams, D., Staubus, A.E., Moeschberger, M.J., Gahbauer, R., Yates, A.J., **Boesel, C.**, Mengers, T., Curran, J.F., Wan, C.K., Makroglou, G.E., Tzeng, J.J., and Fairchild, R.: Preclinical studies on boron neutron capture therapy. Fairchild, Bone, and Woodhead (eds) *Clinical Aspects of Neutron Capture Therapy*, Plenum Press 95-105, 1989.
14. Sahenk, Z., Mendell, J.R., Lee, D., Tan, E., and **Boesel, C.P.**: Evidence for Impaired Axonal Stimulus in Congenital Hypomyelinating/Amyelinating Neuropathies. *Neurology*, 41 (Suppl. 1) 340, 1991
15. **Boesel, C.P.** Book Review: Pediatric Neuropathology. *J. Neuropathol. Exp. Neurol*, 54:607, 1996.
16. Boesel, C.P. Book Review: Congenital Malformations of the Brain. *J. Neuropathol. Exp. Neurol*, 55:1021, 1996.
17. Cottingham, S.L., Boesel, C.P., and Yates, A.J. Pilocytic Astrocytoma in Infants: A Distinctive Histologic Pattern. *J. Neuropathol Exp Neurol*, 55:654, 1996 (Abst.)

PRESENTATIONS AT MEETINGS

1. Liss, L, **Boesel, C.**, Okino, T., and Traurig, J.: "A Cell Line Derived From Glioblastoma Multiforme. A histological, histochemical, ultrastructural, and biochemical analysis", American Association of Neuropathologists, 47th annual meeting, San Juan, Puerto Rico, June 1971
2. Armed Forces Institute of Pathology, Annual Lecture Series, March 1973, "Subependymal giant cell astrocytomas".

Presentations cont'd

3. Displays in the Medical Museum, Armed Forces Institute of Pathology:
 “Stroke” 1972
 “Normal Human Brain” 1973
4. “Reactive pleocytosis in children receiving prophylactic intrathecal methotrexate: Children’s Cancer Study Group, Pathology Committee, February 18, 1975, New Orleans, Louisiana.
5. Kosnik, E.J., **Boesel, C.P.**, Bay, J., and Sayers, M.P.: Primitive neuroectodermal tumors of the central nervous system in children. Presented at the Pediatric Section, American Association of Neurological Surgeons, Toronto, December 2-4, 1979.
6. Suhan, J., Bradel, E., and **Boesel, C.**: Ultrastructure of primitive neuroectodermal neoplasms of the central nervous system. Pediatric Pathology Club, Long Beach, California, October 11, 1977.
7. **Boesel, C.P.**, Suhan, J.P., and Sayers, M.P.: Melanotic medulloblastoma: Report of a case with ultrastructural findings. Presented at the Pediatric pathology Club, Atlanta, Georgia, March 3, 1978.
8. **Boesel, C.P.**: Brain tumors in children. Presented at the Ohio Society of Pathologists, Columbus, Ohio, February 18, 1978
9. **Boesel, C.P.**: Brain hamartomas and tumors of tuberous sclerosis. Presented at the Ohio Society of Pathologists, Columbus, Ohio, February 18, 1978.
10. **Boesel, C.P.**: Choroid plexus in children. Presented at the Pediatric Pathology Club interim meeting, Royal Oak, Michigan, October 26-27, 1978.
11. **Boesel, C.P.**: Neuropathology of Tuberous Sclerosis. Invited presentation at Tuberous Sclerosis Workshop, Tuberous Sclerosis Association of Great Britain, Oxford, England, June 28, 1979.
12. **Boesel, C.P.**: Neuropathology Studies in the C.C.S.G.: Histopathological and staging aspects. Presented to pediatric pathology Club Meeting, New Orleans, Louisiana, February 23, 1980.
13. **Boesel, C.P.**: Medulloblastoma: Pathology. Presentation at meeting of the Brain Tumor Group, Oak Brook, Illinois, October 5, 1980.

Presentations Cont'd

14. **Boesel, C.P.**, Shim, C.H.: Improving the fixation of neural tumors. Poster session at the Annual Meeting, Pediatric Pathology Club, Boston, Massachusetts, March 1, 1982
15. Moderator, Scientific session on "Neural tumors" at the Pediatric Pathology Club Annual Meeting, Boston, Massachusetts, March 1-5, 1982.
16. Co-chairperson, Scientific session IV (Developmental and methodology), Annual meeting, American Association of Neuropathologists, St. Louis, Missouri, June 10, 1983.
17. **Boesel, C.P.:** "An unusual case of Leigh's syndrome with severe cerebral cortical involvement". Presented (slides and case discussion) at the 23rd Annual Meeting of the Canadian Association of Neuropathologists, Banff, Alberta, Canada, September 29 – October 1, 1983.
18. **Boesel, C.P.:** Case Presentation (Leigh's Syndrome), Ohio Society of Pathologists, Spring Meeting, Cincinnati, Ohio May 22, 1984.
19. Qualman, S., Shannon, B., Jacobs, D., **Boesel, C.** and Sayers, M.: Choroid Plexus Neoplasia: Cerebrospinal Fluid Assay and Ploidy Analysis Predict Tumor Behavior, Annual Meeting of Society for Pediatric Pathology, New Orleans, Louisiana, March 8-9, 1986.
20. Miller, D., Albo, V., Leiken, S., Litman, P., **Boesel, C.** Sather, H., and Hammond, D.: Brain Tumors in Survivors of Childhood Acute Lymphoblastic Leukemia. Proceedings of the XVII SIOP Meeting, September 1986.
21. Andrezejewska, W., Chakeres, D., Yates, A.J., **Boesel C.:** Correlations of Biochemical-Histological Analyses and MRI of Formalin-fixed Brain from Aged Patients. Gerontological Society of American, Chicago, Illinois, November 21, 1986.
22. Kokin, S., Kissel, J., Weiss, J. and **Boesel, C.:** Magnetic Resonance Imaging in the Early Diagnosis of Adult Leigh's Disease. American Neurological Association Meeting, 1986.
23. Neglia, J.P., Meadows, A.T., Robinson, L.L., Ruymann, F., Newton, W., Kin, T., Rorke, L., **Boesel, C.**, Sather, H., Hammond, D. Second neoplasms following childhood acute Lymphoblastic leukemia (ALL): A report from the Children's Cancer Study Group. Proc American Association. Cancer Research 30:227, 1989 (slide presentation)

Presentations Cont'd

24. Cottingham, S.L., Boesel, C.P., Yates, A.J. Pilocytic Astrocytoma in Infants: A Distinctive Histologic Pattern. American Association of Neuropathologists Annual Meeting, Vancouver, BC, Canada, June 11-16, 1996.