

May 14, 2009

PROMOTION RECOMMENDATION  
UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF PEDIATRICS AND COMMUNICABLE DISEASES

John D.E. Barks, M.D., associate professor of pediatrics and communicable diseases, with tenure, Department of Pediatrics and Communicable Diseases, Medical School, is recommended for promotion to professor of pediatrics and communicable diseases, with tenure, Department of Pediatrics and Communicable Diseases, Medical School [also being promoted to research professor, Center for Human Growth and Development].

Academic Degrees:

M.D.	1980	Queen's University, Kingston, Ontario
B.A.	1976	Queen's University, Kingston, Ontario

Professional Record:

2000-present	Associate Professor of Pediatrics and Communicable Diseases, University of Michigan
2000-present	Research Associate Professor, Center for Human Growth and Development, University of Michigan
1997-2000	Assistant Research Scientist, Center for Human Growth and Development, University of Michigan
1993-2000	Assistant Professor of Pediatrics and Communicable Diseases, University of Michigan
1990-1993	Lecturer, Department of Pediatrics and Communicable Diseases, University of Michigan
1987-1990	Assistant Professor of Pediatrics, University of Toronto

Summary of Evaluation:

Teaching: Dr. Barks is a highly regarded educator. He has twice been named as one of the top 10% of pediatric faculty and, in 2004, won the Token of Appreciation from Medical Students for his teaching abilities. He has mentored neonatology fellows, junior faculty, and post-doctoral fellows in his laboratory. He co-organizes the monthly neonatal neurology conference and participates fully in the weekly and monthly conferences of the division. His presentations are thorough, well organized, up to date, and provocative.

Research: Dr. Barks' research focuses on neonatal brain injury and on development of therapeutic strategies to limit the adverse effects of neonatal hypoxic-ischemic brain injury on

neurodevelopmental outcome. He has made substantial contributions to both laboratory-based and clinical research related to this theme.

Dr. Barks' laboratory research program focuses on studies of the pathogenesis and treatment of neonatal brain injury, using animal models. He has continued to collaborate with a colleague and former mentor, Dr. Faye Silverstein, on neuropharmacology studies. In addition, he has established an independent, complementary research program that focuses on application of behavioral methods to the study of neonatal brain injury. This line of investigation stems from collaborations that he established with Dr. Timothy Schallert (Department of Psychology, University of Texas) and Dr. Brian Kolb (Center for Behavioural Neuroscience, University of Lethbridge). Dr. Barks developed expertise in the application of quantitative behavioral methods for evaluation of functional outcomes in experimental animals. This segued into a new line of investigation (funded by his R01, NS 045812) to examine the impact of targeted behavioral interventions on recovery after neonatal brain injury.

His clinical research, similarly, focuses on neonatal neuroprotection. He was the lead University of Michigan investigator in the international "Cool-cap" clinical trial of therapeutic hypothermia for treatment of neonatal asphyxial brain injury. He is now recognized, nationally and internationally, as an expert in the implementation of therapeutic cooling protocols in neonatal intensive care units. Recently, he contributed to some important secondary analysis of the data from this study that has important implications for clinical care. He identified some limitations in the methodology that was used to identify neonates who could benefit from therapeutic hypothermia, and this has already resulted in changes in clinical practice.

He is also contributing to a new research initiative to identify genetic factors that are associated with increased risk of intraventricular hemorrhage--a major cause of neurological morbidity in premature infants. He is the site-PI for a recently funded multi-center R01 that will support this important new research program.

#### Recent and Significant Publications:

Gunn AJ, Wyatt JS, Whitelaw A, Barks J, Azzopardi D, Ballard R, Edwards AD, Ferriero DM, Gluckman PD, Polin RA, Robertson CM, Thoresen M, on behalf of the Cool Cap Study Group: Therapeutic hypothermia changes the prognostic value of clinical evaluation of neonatal encephalopathy. *J Pediatr* 152:55-8, 2008.

Barks J: Current controversies in hypothermic neuroprotection. *Sem Fetal Neonatal Med* 13:30-34, 2008.

Grow JL, Liu YQ, Barks JDE: Can lateralizing sensorimotor deficits be identified after neonatal cerebral hypoxia-ischemia in rats? *Dev Neurosci* 25:394-402, 2003.

Liu YQ, Silverstein FS, Skoff R, Barks JDE: Hypoxic-ischemic oligodendroglial injury in neonatal rat brain. *Pediatr Res* 51:25-33, 2002.

Chou IC, Trakht T, Signori C, Smith J, Felt BT, Vazquez DM, Barks JDE: Behavioral/environmental intervention improves learning after cerebral hypoxia-ischemia in rats. *Stroke* 32:2192-2197, 2001.

Service: Dr. Barks has served as the director of neonatal research programs for the past ten years, a role in which he has mentored fellows and junior faculty in their research pursuits. He has also been co-director of the fellowship program in neonatal-perinatal medicine. He serves on numerous committees, including the Holden NICU Joint Practice Committee; Coordinator, Quality Assurance project on timeliness of newborn antibiotic administration; Neonatology Continuing Medical Education Course Planning Committee (1994-2004); Research Advisory Committee, Department of Pediatrics (2001-2005); Mott Palliative Care Committee; Holden Family-Centered Care Committee; Holden Care Model Task Force; Children's and Women's Hospital Clinical Room Workgroup; Holden NICU Design Team; University of Michigan Health System Capital Project liaison; and co-director, B.R.A.I.N. Care (Brain Research and Innovative Neurologic Care) program, coordinating multidisciplinary neonatal neuro-intensive care and clinical research. He has served as a reviewer for most pediatric and neonatal peer-reviewed journals, and he has been a grant reviewer and site visitor for the NIH and other granting organizations.

Professional Work: Dr. Barks is certified by the American Board of Pediatrics and the sub-Board of Neonatal-Perinatal Medicine. He attends in the Holden NICU one month per year and also takes weekend and night call on an every fourth week basis for six months of the year. He is an excellent clinician with sound judgment and clinical skills.

External Review:

Reviewer A: "Dr. Barks is a prominent clinician-scientist focusing on neonatal brain injury. He has published several important basic science papers describing the pathophysiology of neonatal ischemic brain damage, and has been intimately involved in clinical trials utilizing cooling to reduce neurodevelopmental disability following hypoxic-ischemic encephalopathy. Together, these activities are important, respected, and well-done, and his work is significantly impacting on neonates throughout the country and the world."

Reviewer B: "His investigations have been important in defining the pattern of hypoxic ischemic injury in the brain using a rat model, and he has also pursued clinical studies to look at the effect of protective strategies including hypothermia. This contributes to a significant advance in the field and provides a bridge between basic and clinical research."

Reviewer C: "...in these days where the 'triple threat' is thought to be extinct in the field of academic medicine, it is refreshing to see a shining example of such a person in John Barks."


Reviewer D: "His clear focus has been in protecting the newborn brain from injury. He advises other programs on hypothermic neuroprotection; management of brain seizures; the evaluation of perinatal hypoxic ischemic brain injury and bedside EEG monitoring. There are few neonatologists around the country who have the experience both in the laboratory and at the bedside that Dr. Barks has and it is heartwarming to see how well he has been recognized by his peers around the world."

Reviewer E: “He is an important figure in the current world of neonatal brain research in humans....He is certainly recognized nationally and internationally as indicated by the invited lectures he gives around the US, in Europe and in Asia.”

Reviewer F: “Both his experimental as well as clinical studies are of a high quality. As a consequence, Dr. Barks has built a national and international reputation as an outstanding investigator in the field of newborn neurology.”

Summary of Recommendation:

Dr. Barks is a nationally recognized expert in the field of neonatal and perinatal medicine with a particular focus on the diagnosis and care of neonates with brain injury. He has brought attention and prestige to the Holden NICU through his research and has conducted groundbreaking translational investigations in the area of therapeutic hypothermia for the treatment of neonatal asphyxial brain injury. I strongly recommend his promotion to professor in the Department of Pediatrics and Communicable Diseases.

  
James O. Woolliscroft, M.D.  
Dean  
*Lyle C. Roll Professor of Medicine*

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