

PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF INTERNAL MEDICINE

Approved by the
Regents
May 15, 2014

Robert D. Brook, M.D., associate professor of internal medicine, with tenure, Department of Internal Medicine, Medical School, is recommended for promotion to professor of internal medicine, with tenure, Department of Internal Medicine, Medical School.

Academic Degrees:

M.D.	1995	University of Michigan
B.S.	1991	Michigan State University

Professional Record:

2008-present	Associate Professor of Internal Medicine, University of Michigan
2001-2008	Assistant Professor of Internal Medicine, University of Michigan
1999-2001	Lecturer, Department of Internal Medicine, University of Michigan

Summary of Evaluation:

Teaching: Dr. Brook has actively participated in the teaching of students, house officers and fellows, both in the clinical setting and through didactic lectures. He continues to serve as the clerkship director for the M-4 Preventive Cardiology-Hypertension/Vascular Medicine Rotation, having developed the curriculum over a decade ago. He mentors house officers rotating through his hypertension clinic during ambulatory months, along with endocrinology fellows in his lipid clinics. Dr. Brook also provides research mentoring to residents, fellows, and junior faculty. He has given numerous intramural lectures through grand rounds, morning reports and divisional talks. He also provides many CME lectures both at Michigan and externally in his areas of expertise, including hypertension, hyperlipidemia, cardiovascular disease prevention, and air pollution. Since 2012 he has served on the CME committee and the primary care educational program committee for the American Society of Hypertension.

Research: Dr. Brook is recognized as a pioneer in the field of "environmental cardiology," which seeks to determine the relationship between environmental factors such as air pollution and cardiovascular disorders. He is both the co-director of a prestigious EPA-funded Clean Air Center Project as well as the principal investigator on project 1 of this highly collaborative grant. As a thought-leader in the field, Dr. Brook was selected as the chair for the 2010 updated American Heart Association (AHA) scientific statement on particulate matter and cardiovascular disease. Additionally, he has a national reputation for his clinical research on hypertension, and recently served as the chair for a landmark AHA scientific statement on alternative approaches to treating high blood pressure. Dr. Brook has published over 150 peer-reviewed papers, with more than 90 of these as first or senior author. He has been invited to give numerous talks nationally and internationally, and also has an outstanding track record of funding from multiple sources.

Recent and Significant Publications:

Brook RD, Urch B, Dvorchak JT, Bard RL, Speck M, Keeler G, Morishita M, Kaciroti N, Harkema J, Corey P, Silverman F, Wellenius G, Mittleman MA, Rajagopalan S, Brook JR: Insights into the mechanisms and mediators of the effects of air pollution exposure on blood pressure and vascular function in healthy human. *Hypertension* 54:659-667, 2009.

Brook RD, Rajagopalan S, Pope CA III, Brook JR, Bhatnagar A, Diez-Roux A, Holguin F, Hong Y, Luepker RV, Mittleman M, Peters A, Siscovich D, Smith SC Jr, Whitsett L, Kaufman JD: Particulate matter air pollution and cardiovascular disease. An update to the scientific statement from the American Heart Association. *Circulation* 121:2331-2378, 2010.

Brook RD, Cakmak S, Turner MC, Brook JR, Crouse DL, Peters PA, van Donkelaar A, Villeneuve PJ, Brion O, Jerrett M, Martin RV, Rajagopalan S, Goldberg MS, Pope III CA, Burnett RT: Long-term fine particulate matter exposure and mortality from diabetes mellitus in Canada. *Diabetes Care* (in press) DOI:10.2337/dc12-2189, 2013.

Brook RD, Xu X, Bard RL, Dvorchak JT, Morishita M, Kaciroti N, Sun Q, Harkema J, Rajagopalan S: Reduced metabolic insulin sensitivity following sub-acute to low levels of ambient fine particulate matter air pollution. *Sci Total Environ* 448:66-71, 2013.

Brook RD, Appel LJ, Rubenfire M, Ogedegbe O, Bisognano JD, Elliott W, Fuchs FD, Hughes JW, Lackland DT, Staffileno BA, Townsend RR, Rajagopalan S: on behalf of the American Heart Association Professional Education Committee of the Council on High Blood Pressure Research, Council on Cardiovascular and Stroke Nursing, Council on Epidemiology and Prevention, and Council on Nutrition, Physical Activity, and Metabolism. Beyond medications and diet: Alternative approaches to lowering blood pressure: a scientific statement from the American Heart Association. *Hypertension* 61:1360-1383, 2013.

Service: Dr. Brook currently serves on both the Continuing Medical Education Committee and the Primary Care Program Education Committee for the American Society of Hypertension. Previously, he served on the American Heart Association Council on Epidemiology and Prevention, from 2004-2010. Dr. Brook is an ad hoc reviewer for numerous journals, and is on the editorial board of *Environmental Health Perspectives* and the *Journal of the American Society of Hypertension*. In 2009, he served as reviewer for the Institutes of Medicine report on secondhand smoke. He is a fellow of the Society for Vascular Medicine and Biology, the American Society of Hypertension, and the National Lipid Association. Dr. Brook's clinical expertise is in the areas of preventive cardiology-hyperlipidemia and hypertension-vascular medicine. He sees patients in the outpatient setting and also reads and interprets all vascular studies at the diagnostic vascular lab. Dr. Brook is board-certified by the American Board of Vascular Medicine and is an American Society of Hypertension (ASH) designated specialist in Clinical Hypertension. He serves as the director of the ASH-designated comprehensive hypertension center, recently awarded here, and one of only a handful of such centers in the country. Additionally, he recently initiated and directs an outpatient comprehensive aortic disease management program at the Cardiovascular Center.

External Reviewers:

Reviewer A: "Dr. Brook's scholarship has had a large impact on key areas of cardiovascular disease. In regards to hypertension, Dr. Brook is well recognized as a clinical expert, an important thought

leader, and successful research scientist. His work regarding air pollution and cardiovascular risk has provided critical advances in our understanding of the pathophysiology and epidemiology of exposure to pollution and cardiovascular disease. These seminal observations have clearly established him as an internationally recognized expert in this very important area.”

Reviewer B: “Based on his leadership of the AHA statements and his other papers, it is safe to say that Dr. Brook’s scholarship has had a major impact on this field, and resulted in very important advances. I suspect he will continue to have a major impact.”

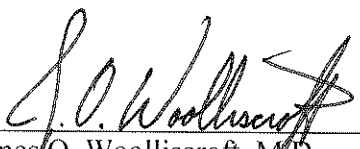
Reviewer C: “His various activities for scientific societies and medical education speak to a strong sense of volunteerism in his region, the United States and on the international scene....Undoubtedly, he would be a full professor in our system in the equivalent to your educational track. There are very few of his age that have the track record for important clinical research and national recognition for service present here.”

Reviewer D: “...clearly he has developed into a world authority in the area of the role of particulate matter air pollution in the pathogenesis of cardiovascular disease....In recognition of his high position in the field, he was selected as Committee Chair and lead author of the American Heart Association (AHA) Scientific Statement on Particulate Matter Air Pollution and Cardiovascular Disease....In putting this report together, Dr. Brook led a distinguished group of epidemiologists and environmental health scientists and was able to produce a very convincing and highly influential document. This work product provides strong evidence of his influence in the field.”

Reviewer E: “...it is through his seminal work on differentiating the relative contribution of particulate and gaseous pollutants on cardiovascular function and outcomes that has, in my opinion, been pivotal in establishing him as an innovative and important figure in cardiovascular medicine.”

Summary of Recommendation:

Dr. Brook is internationally recognized for his work on cardiovascular disease risk factors in regard to fine particulate matter air pollution. He is also a dedicated educator and an outstanding clinician. Therefore, I am pleased to recommend Robert D. Brook, M.D. for promotion to professor of internal medicine, with tenure, Department of Internal Medicine, Medical School.



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

May 2014