

BIOGRAPHICAL SKETCH

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NAME: Knopman, David S.

date: 4/10/2020

eRA COMMONS USER NAME (credential, e.g., agency login): KNOPMAN

POSITION TITLE: Professor of Neurology, Mayo Clinic College of Medicine

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Dartmouth College, Hanover, NH	A.B.	1972	Biology
Dartmouth Medical School, Hanover, NH	B.M.S.	1973	Medicine
University of Minnesota, Minneapolis, MN	M.D.	1975	Medicine
University of Minnesota, Minneapolis, MN	Residency	1976-1979	Neurology
Hennepin County Medical Center, Minneapolis, MN	Fellowship	1979-1980	Aphasia, Behavioral Neurology

A. Personal Statement

Dr. Knopman is an experienced clinical neurologist with interests in the spectrum of degenerative and cerebrovascular diseases causing cognitive impairment. He is an Associate Director of the Mayo Alzheimer's Disease Research Center. Dr. Knopman has also been involved in clinical trials in AD and FTD. He is past chair of the Medical Advisory Council of the Association for Frontotemporal Dementia. He is immediate past-chair of the MSAC of the Alzheimer Association and was on the steering committee of the National Alzheimer Prevention Act Alzheimer Disease and Related Disorders Workshops in May 2013, March 2016 and March 2019.

B. Positions and Honors**Positions and Employment**

1980-2000 Assistant/Associate/Professor, Department of Neurology, University of Minnesota Medical School, Minneapolis, MN

1999-2000 Interim Head, Department of Neurology, University of Minnesota Medical School, Mpls, MN

2000-present Professor of Neurology, Mayo Clinic College of Medicine, Rochester, MN

2000-2002 Senior Associate Consultant, Department of Neurology, Mayo Clinic, Rochester, MN

2002-present Consultant, Department of Neurology, Mayo Clinic, Rochester, MN

2016-2018 Chair Medical and Scientific Advisory Council, Alzheimer's Association

2015-2017 Chair Medical Advisory Council, Association for Frontotemporal Degeneration

2018-present Advarra IRB, non-affiliated, Scientific Board member

2019 Khachaturian Prize, Alzheimer's Association

Other Experience and Professional Memberships

1979-present Member and now Fellow of American Academy of Neurology

1990-present Member American Neurological Association

2007-present Associate Editor, Neurology. 2010- 2015 Deputy Editor, 2017-present Omsbudsman *Neurology*

2007-present Contributor, Cecil Textbook of Medicine, 23rd, 24th, 25th Editions. Regional Cerebral Dysfunction: Higher Mental Functions, and Alzheimer's Disease and other Dementias

DK

C. Contributions to Science

Frontotemporal Lobar Degenerations

I have been involved in the clinical characterization of what we now call the frontotemporal degenerations since the late 1980's when I first encountered patients with a non-Pick body frontotemporal lobar degeneration that I dubbed "dementia lacking distinctive histology." While this entity later turned out to include both tauopathies and TDP43 proteinopathies, the concept enlarged the previously very narrow and (then) obscure entity of Pick disease. Subsequently I have been involved in studies of the epidemiology of the frontotemporal degenerations. More recently, I have studied ways in which the disorders could be subjected to clinical trials.

Knopman D, Petersen R, Edland S, Cha R, Rocca WA. The incidence of fronto-temporal lobar degeneration in Rochester, Minnesota, 1990-1994. *Neurology*. 2004;62(3):506-8. PMID: 14872045.

Knopman DS, Jack CR, Jr., Kramer JH *et al*. Brain and ventricular volumetric changes in frontotemporal lobar degeneration over 1 year. *Neurology*. 2009;72(21):1843-9. PMID: 19470967. PMC2690986

Knopman DS, Weintraub S, Pankratz VS. Language and behavior domains enhance the value of the clinical dementia rating scale. *Alzheimers Dement*. 2011;7(3):293-9. PMID: 21575870.

Knopman DS, Kramer JH, Boeve BF *et al*. Development of methodology for conducting clinical trials in frontotemporal lobar degeneration. *Brain*. 2008;131(11):2957-68. PMID: 18829698.

Issues in the diagnosis and epidemiology of cognitive Impairment and Dementia

As a clinician, diagnostic issues have always been part of my daily activities. I was fortunate to be involved in the 2001 AAN practice parameter on dementia, which has held up reasonably well on some areas but is now out of date on many issues. I was also fortunate to participate in the NIA-AA 2009-2011 Workgroup that revised the diagnostic criteria for Alzheimer dementia. I served as cochair of the panel. As understanding what is normal and what constitutes the other non-Alzheimer dementias, I have been interested in the epidemiology and neuropathology of dementia and have published on the neuropathology of cognitive normality, as well as vascular cognitive impairment and frontotemporal lobar degenerations.

Knopman DS, DeKosky ST, Cummings JL *et al*. Practice parameter: Diagnosis of dementia (an evidence-based review). *Neurology*. 2001;56(9):1143-1153. PMID: 11342678.

Knopman DS, Parisi JE, Salviati A *et al*. Neuropathology of cognitively normal elderly. *J Neuropathol Exp Neurol*. 2003;62(11):1087-95. PMID: 14656067.

Knopman DS, Beiser A, Machulda MM *et al*. Spectrum of cognition short of dementia: Framingham Heart Study and Mayo Clinic Study of Aging. *Neurology*. 2015;85(19):1712-21. PMID: 26453643

McKhann GM, Knopman DS, Chertkow H *et al*. The diagnosis of dementia due to Alzheimer's disease: Recommendations from the National Institute on Aging and the Alzheimer's Association workgroup. *Alzheimer's & Dementia: Journal of the Alzheimer's Association*. 2011;7(3):263-69. PMID: 21514250. PMC3312024

Knopman DS, Petersen RC, Jack CR, Jr. A brief history of "Alzheimer disease": Multiple meanings separated by a common name. *Neurology* 2019; 92:1053-1059. PMID: 31028129 PMCID: PMC6556090

Cognitive Impairment and Cerebrovascular Disease

Since becoming involved in the Atherosclerosis Risk in Communities Study in 1990, I have been interested in the role of cerebrovascular disease in cognition. I was also able to expand this avenue in the Mayo Clinic Alzheimer Center.

- Knopman DS, Griswold ME, Lirette ST *et al.* Vascular imaging abnormalities and cognition: mediation by cortical volume in nondemented individuals: atherosclerosis risk in communities-neurocognitive study. *Stroke*. 2015;46(2):433-40. PMID: 25563642. PMC4308430
- Knopman DS, Gottesman RF, Sharrett AR, et al. Midlife vascular risk factors and midlife cognitive status in relation to prevalence of mild cognitive impairment and dementia in later life: The Atherosclerosis Risk in Communities Study. *Alzheimers Dement* 2018; 14:1406-1415. PMID: 29763593
- Knopman D, Parisi JE, Boeve BF *et al.* Vascular Dementia in a Population-based autopsy study. *Arch Neurol*. 2003;60(4) 569-76. PMID: 12707071.
- Knopman D, Rocca WA, Cha RH, Edland SD, Kokmen E. Incidence of vascular dementia in Rochester, Minnesota, 1985-1989. *Arch Neurol*. 2002;59(10):1605-10. PMID: 12374499.

Preclinical Alzheimer Disease

With the development of criteria for preclinical Alzheimer disease and the availability of the Mayo Clinic Study of Aging cohort, many of whom had undergone multimodal brain imaging, I, along with close colleagues Jack, Petersen and Lowe, have had the unique opportunity to study cognitively normal people with a combination of amyloid PET imaging, structural MR and FDG PET. The following studies in cognitively normal people have been among the most exciting to create and write as they have helped shape our understanding of an aspect of Alzheimer Disease that was otherwise largely unknown prior to amyloid imaging.

- Knopman DS, Jack CR, Jr., Wiste HJ *et al.* (18)F-fluorodeoxyglucose positron emission tomography, aging, and apolipoprotein E genotype in cognitively normal persons. *Neurobiol Aging*. 2014;35(9):2096-106. PMID: 24702820. PMC4053507
- Knopman DS, Jack CR, Jr., Lundt ES, et al. Evolution of neurodegeneration-imaging biomarkers from clinically normal to dementia in the Alzheimer disease spectrum. *Neurobiol Aging* 2016;46:32-42. PMID: 27460147. PMC5018437
- Knopman DS, Jack CR, Jr., Lundt ES, et al. Role of beta-Amyloidosis and Neurodegeneration in Subsequent Imaging Changes in Mild Cognitive Impairment. *JAMA Neurol* 2015;72:1475-83. PMID: 26437123. PMC4735877
- Knopman DS, Lundt ES, Therneau TM, et al. Joint associations of beta-amyloidosis and cortical thickness with cognition. *Neurobiol Aging*. 2018;65:121-131. PMID: 29471214 PMC5871603
- Knopman DS, Lundt ES, Therneau TM, Vemuri P, Lowe VJ, Kantarci K, et al. Entorhinal cortex tau, amyloid-beta, cortical thickness and memory performance in non-demented subjects. *Brain* 2019; 142:1148-1160. PMID: 30759182 PMCID: PMC6439321

Complete List of Published Work in MyBibliography:

<http://www.ncbi.nlm.nih.gov/pubmed/?term=knopman+d%5BAuthor%5D+or+knopman+ds%5BAuthor%5D>