

of walking was 0.61 (95%CI = 0.43-0.88, $p = 0.008$). An association with MWD50 was seen in women ($P = 0.02$) but not men ($P = 0.97$). In addition, MWD50 was associated with WBV in women ($P = 0.04$) but not men ($P = 0.84$). When WBV was added to the adjusted model predicting dementia, MWD50 was no longer significant ($P = 0.54$) in the whole sample or in women ($P = 0.24$). **Conclusions:** Exercise in mid-life reduces the risk for dementia in women independently of APOE-e4, hippocampal volume and the volume of white matter hyperintensities. This association is partially mediated by late-life brain volume, which is related to minutes of walking per day at age 50 in women, but not men. Estrogen in earlier adult and midlife may interact with exercise to upregulate BDNF, increasing brain reserve in late life (*Eur J Neurosci* 2001;14(12):1992-2002).

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DEVELOPING A NATIONAL INSTITUTIONAL REVIEW BOARD FOR NEURODEGENERATIVE DISEASES

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Background: Since World War II, federal governments across the globe have fostered vital and robust systems to safeguard the conduct of studies involving human participants. One of the important regulatory mechanisms to assure protection has been the development of the institutional review board (IRB). Although local community representation in the United States has been a key feature of IRB reviews for clinical research, more complex study designs often involving multiple research sites and extending over large geographical distances is complicating the review process. The problems associated with multisite IRB reviews are particularly relevant for neurodegenerative disease research. A key consensus recommendation to overcome this hurdle in the United States is the launch of a National Institutional Review Board for Neurodegenerative Diseases (NIRB-ND). The purpose of this new ethical oversight panel would be to increase the efficiency in the conduct of large-scale multi-site trials and to serve as an international model for global prevention studies. **Methods:** The Campaign to Prevent Alzheimer's Disease by 2020, in partnership with the Alzheimer's Association, the Alzheimer's Disease Cooperative Study (ADCS), Mayo Clinic, Rhode Island Hospital and the Alpert Medical School of Brown University has assembled an advisory board comprising members from the National Institutes of Health, the Canadian Institutes for Health Research, academia and industry to provide technical oversight and opinion on several topics and functions related to the development and operation of the NIRB-ND. **Results:** The NIRB-ND be incorporated as a 501c(3) not-for-profit corporation. The entity will provide centralized

IRB services to support of all phases of clinical drug, device, and biologics development for national or multi-center studies as the IRB of record. The NIRB-ND will initially accept protocols for studies of Alzheimer's disease, dementia, and related disorders effecting memory, movement and mood in late 2012. **Conclusions:** The NIRB-ND will build upon on the experiences of the National Cancer Institute and the NeuroNEXT central IRBs for prevention trials of neurodegenerative diseases. The project will explore the possibility of using facilitated review model in an international context with partnerships starting in Canada.

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COGNITIVE FUNCTION AND ORAL HYGIENE BEHAVIOR IN LATER LIFE

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Background: This study examines the association between cognitive function and oral hygiene among older adults over a 5 year period. **Methods:** The Piedmont 65+ Dental Study collected dental-related data on 810 elders randomly selected from the Duke Established Population for Epidemiologic Studies of the Elderly (1986-1993). Data were collected at baseline, 18, 36, and 60 months. Cognitive function was measured using the Short Portable Mental Status Questionnaire (SPMSQ)(number of errors from 0 to 10). Oral hygiene was measured by asking the respondents how many times they brushed their teeth the previous day. Those who responded that they had not brushed their teeth the previous day were classified as having poor oral hygiene. Generalized linear mixed models were used to assess the association of cognitive function and oral hygiene over time, controlling for age, race, gender, education, and marital status. **Results:** Eighteen percent of respondents scored in a range considered to indicate at least mild or greater cognitive impairment (3+ errors) at baseline, while 9.9% were classified as having poor oral hygiene. Being white and being female were associated with better oral hygiene practices. In a model where time-changing oral health was regressed on time-changing cognitive function, each additional error on the SPMSQ increased the odds of poor oral hygiene by 1.41 (CI = 1.22, 1.63). Further analyses showed that the relationship between cognitive function and oral hygiene over time was primarily attributable to the association between baseline cognitive function and baseline oral hygiene (OR = 1.38, CI = 1.11, 1.70). The patterns of change in oral hygiene over time did not differ based on baseline cognitive score. **Conclusions:** Controlling for other covariates, poorer baseline cognitive function was significantly associated with poor baseline oral hygiene practices, and this relationship remained stable over a period of 5 years. This study suggests that there is a long-term pattern of poor oral hygiene for individuals with low cognitive function.