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FACTS AND RESEARCH IN ALZHEIMER'S DISEASE

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VII. NUTRITIONAL INTERVENTION FOR EARLY ALZHEIMER'S DISEASE (NEAD)

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A multidisciplinary, multi-university team of neuroscientists, physicians, nutrition experts and Alzheimer's disease or older adult nutrition clinical trial experts have developed an evidence-based nutritional intervention proposed for slowing progression in persons with early stage AD and for reducing risk in older adults. Scientific evidence includes converging epidemiological evidence of protective/risk factors for AD and chronic diseases such as stroke, diabetes and vascular diseases thought to elevate risk for AD, as well as animal and human clinical studies by co-authors Martin, Shea and other scientists. Martin's studies demonstrate that blueberries can improve cognitive and physical functioning (of old rats); vitamin C can reduce inflammatory action of glial cells; omega 3 PUFAs enhance action of vitamins E and C and diminish oxidative stress in hamsters and reduce inflammation in humans; vitamins C and E in orange juice are bioavailable to older humans. Shea's studies demonstrate independent contributions of antioxidants (in apple juice) and folates to prevent/reverse cognitive decline in AD transgenic mice. Our presentation highlights

evidence and logic for a nutritional invention emphasizing the synergistic contributions to braincell health of PUFAs, especially omega-3s, folates, vitamins C and E and other vitamins in addition to foods rich in a variety of anti-oxidants, summarize the 10 key items in the NEAD program, our behavioral change intervention together with neuropsy and biomarker outcome measures. We outline how a variety of nutrients can work together to interfere with several mechanisms thought to affect etiology of AD including impaired braincell membrane repair and function, microgliosis, inflammation, impaired blood flow, and oxidative damage, all which may affect development of plaques or NFTs characteristic of AD. AD is a complex and severe disease and thus reductionist approaches seeking a single pharmacological or nutritional agent may be insufficient to slow progression once symptoms appear, or to prevent or delay onset.

(1) The Journal of Nutrition, Health and Aging vol. 8, n° 5, 2004, p. 428; Symposium on Nutrition and Alzheimer's Disease, abstract, (Tokyo, October 1-2, 2004) Serdi Publisher,France