<https://attendee.gotowebinar.com/recording/1474435614854705667>

(14:00) J. Wesson Ashford presentation

URL for presentation: [www.medafile.com/AFA](http://www.medafile.com/AFA)

Starting with a PowerPoint slide show on the left:

<http://www.medafile.com/AFA/AFA-recommends-memory-screening-2021-08-28.pptx>

(14:00) Slide 1: Alzheimer’s Foundation of America: recommendations of the Medical, Scientific, and Memory Screening Advisory Board (draft-2021-08-28) - Early identification of patients with neurocognitive impairment. The draft presentation was developed not just for screening and recognizing patients but to provide a full path to determining the presence of dementia, initiating a medical evaluation, and grading its severity from the mildest phases to the most severe state.

(15:43) Slide 2: Alzheimer’s Disease (AD) – 2021: provides a view of Alzheimer’s disease as a disease of the brain memory neuroplasticity. AD pathology attacks the synapses and neuronal processes of the brain, leading initially to difficulty forming new memories and the progressive loss of all memory.

(15:54) Slide 3: Need for Mass Screening: outlines why screening mass screening for memory problems, dementia, and AD is important and needed

(16:00) Slide 4: Why Screening is Important to Consider: discusses important reasons to screen for memory problems

(16:14) Slide 5, 6: Benefits of Early AD Diagnosis – Social, Medial: present the social and medical benefits of early Alzheimer diagnosis

(16:25) Slide 7: Economic Impact of AD: reviews the tremendous economic impact of AD

* Estimate on 9/10/2021 - $600 billion in lost value due to caregiver activities in US

(16:45) Slide 8: Issues for Memory Screening: The question is how to test memory extensively, inexpensively, and precisely

(17:00) Slide 9: Relative Risk Factors for AD: Risk factors are important to consider during screening and diagnosis, with the biggest factor being APOE genotype.

(17:05) Slide 10: Epidemiology of AD: shows that AD is an age-related disease, more related to age than even mortality, and there are a huge number of AD cases and the number of cases increases rapidly with age, with incidence doubling every 5 years.

(17:15) Slide 11: AD is Under-Diagnosed: In 2019, CDC death certificates identified 121,499 deaths as caused by AD, the 6th leading cause of death. However, if there are close to 6 million individuals in the US with AD and the average life expectancy with AD is 10 years (varies greatly with age), the number of individuals dying with AD was likely close to 600,000, nearly as many as heart disease (#1: 655,000) and about the same as cancer (#2: 599,601).

(17:18) Slide 12: Alzheimer Warning Signs: These items may not be helpful because they occur after many changes in the brain and after memory problems have begun to develop, and some only identify middle stages of AD

(17:28) Slide 13: The TIME-INDEX Model of the Course of AD: Alzheimer’s disease is a progressive disease. The concept of “progression” led Dr. Fred Schmitt and I to view AD relative to the duration of progression, labelling the metric a “TIME-INDEX”, which we first published in 1995. We called a Mini-Mental State Exam score of “24” equal to “0” on the TIME-INDEX scale. We calculated that it takes an average of 8 years to progress to a MMSE score of “1”. But, there is also a long period of time before a score of “0” on the TIME-INDEX scale during which there is progression. Dr. Ron Petersen in 1997 named this period “mild cognitive impairment”, a period of progressive cognitive decline where there is no significant impairment of daily function. This period is now often referred to a “Early Alzheimer’s disease”. What we are now trying to do is define this “pre-dementia” period and find out what is going on during this period and how to stop the neurodegenerative process at this point.

(18:12) Slide 14: The problems with the MMSE: There are extensive problems with the Mini-mental state exam are extensive, though the MMS is still being proposed as an outcome measure in Alzheimer grant applications.

(18:22) Slide 15: Relatively Brief Cognitive and Memory Tests: There are many brief cognitive evaluations. This slide is from a 2008 review, and many have developed since that time.

(18:30) Slide 16: Time to Administer Popular Short Screening Tests: This is a list of widely-used tests for dementia and AD screening. Soo Borson’s Mini-Cog, Herman Buschke’s Memory Impairment screen, and the Brief Alzheimer Screen (BAS, by Mendiondo, Schmitt, and Ashford) are useful tests, but they require a tester to administer the test, and these tests take at least 3 minutes once they are started, after a period of interaction with the subject. The question remains how we can get more rapid and more precise tests, best if a rater is not part of the process.

(slide moved to #21)

(19:00) Slide 17: Brief Alzheimer Screen (BAS): The BAS was developed based on the specific Item Response Properties of the MMSE and other items studied by the CERAD study. Items were chosen for their specific high discrimination power along the continuum from normal to mild AD (MMSE>19).

(19:20) Slide 18: Animals named in 1 min (mms>19) – CERAD data set: It turned out that the animals named in 1 minute are useful for distinguishing normal individuals from mild AD patients. Notably, most mild AD patients have difficulty naming 5 to 10 animals, and they usually are unable to name more after the first 30 seconds, so this test can be shortened to 30 seconds for screening. AD patients rarely name more than 15 animals in a minute, while most normal individuals can name over 15 in a minute, so for trying to identify more mild individuals, the full minute provides more area under the ROC (receiver operator characteristic) curve. It is very easy to ask subjects to name as many items as they can in a minute, and this task is a standard approach to evaluating naming in formal neuropsychological testing.

(19:57) Slide 19: BAS Score: The BAS clearly separates mild AD patients from normal controls. But, there remains the question of it power for assessing along the continuum from normal to mild AD.

(20:14) Slide 20: Brief Alzheimer Screen: This slide shows that the BAS provides significantly more area under the ROC curve than the MMSE in one third of the time. It further shows how much improvement the BAS provides over its individual components. Note that animal naming in 1 minute provides more area than 30 seconds, but less than knowing the date plus 3-word recall after distraction.

(20:36) Slide 21: Ideal Dementia Screening Test: One of the wonderful things that the AFA did was to develop a focus on memory screening tests, a movement which it started and led to the addition of a cognitive assessment mandate for the Annual Medicare Wellness Visit. The AFA has provided leadership on identifying the best available memory screening tests. And the AFA has been working on developing better memory screening tests.

(21:10) Slide 22: MemTrax – Memory Test: I have been working on developing a computerized memory screening test and to show that a computerized test can be offered more widely and efficiently than a standard face-to-face screening test while providing both more precision and reliability, with the ability to assess change over time accurately.

(21:20) Slide 23: Secondary Screen: Specific Testing: The next question is what you do after a screening test. The secondary screen should include more cognitive testing to determine where the subject who has not performed adequately on the preliminary test will score on more cognitive testing. Such testing should include a complete assessment of orientation, testing recall for 5 items, and using animal naming in a minute as a significant distractor. Also, an inventory of Activities of Daily Living should be taken to determine what actual social difficulties may have developed in conjunction with the appearing cognitive/memory difficulties. Also, questions about depression and sleep are important because issues in these functions can interfere with cognitive and daily function. Discussion with a knowledgeable informant is also important to confirm and elaborate about the situation. Usually, individuals with memory problems are poor historians to report on their recent function and difficulties. With this much information, the DSM5 (Diagnostic and Statistical Manual – 5th revision) description of neurocognitive dysfunction can be inventoried.

The three major components, brief neurocognitive assessment, review of Activities of Daily Living, and inventory of DSM5 criteria can be used to estimate where an individual lies on the continue from normal to severe dementia.

(from 18:30) Slide 24: Path to Better Tools for Early AD Assessment: We need to develop better tools for early assessment to address the issues of patients with early dementia and “mild cognitive impairment”. This is a list of important issues currently being addressed in the literature and by scientists around the world. Note that dealing appropriately with genetic testing to determine vulnerability and trait risk is really the most important item.

(22:05) Slide 25: Comprehensive Screening Plan: The AFA should consider participating in the development of a comprehensive screening plan to make age-specific recommendations for clinicians caring for individuals over the age of 50 years.

(22:25) Slide 26: Full Dementia Assessment: Once it has been determined that an individual has cognitive impairment, the AFA should provide recommendations for an appropriate assessment for clinicians. This assessment should lead to appropriate diagnosis of the neuropathological condition causing or at least contributing to the cognitive impairment, which could lead to reversing or halting the progression in reversible conditions or preparing the individual and the social environments to provide the best possible approaches to slow the progression and cope with the problems which will inevitably develop.

(22:40) Slide 27: Future Developments to Prevent AD: There are numerous pathways for potential prevention and treatment of AD which need more attention.

(22:45) Slid 28: BRAIN Health and Alzheimer Treatment Centers: It is important for the AFA to envision how to develop from providing just screening tests to specific recommendations for further evaluation of neurocognitive impairment, to move the Dementia and Alzheimer field forward. From here there is a potential to foster the development of Alzheimer Treatment Centers. A consideration needs to be made for creating Alzheimer Treatment Centers, just like there are Alzheimer’s Disease Research Centers and Cancer Treatment Centers. Such centers would provide more efficient and effective approaches to screening, diagnosing, and managing dementia, particularly AD. The FDA cannot be relied upon to develop comprehensive and effective dementia and AD treatment approaches.

END OF SLIDE SHOW, Please return to URL: [www.medafile.com/AFA](http://www.medafile.com/AFA)

(23:30) This web page presents several items which have been developed to assist with memory screening and secondary assessment for those who manifest difficulties on screening testing. The tests provided here were first developed in the 1980s, and the Global Clinical Scale, composed of three subtests – a revision of the MMSE, a full review of Activities of Daily Living (ADL), and an expansion of the Clinical Dementia Rating scale, was published in 1992 and a demonstration of the power of these three tests to estimate the TIME-INDEX of dementia severity was published with Fred Schmitt in 2001.

(24:00) The ADL scale was recently revised and posted here: <http://www.medafile.com/AFA/ADLs-IB.htm> This ADL scale is a composite of the Lawton-Brody Instrumental ADLs and the Basic ADLs, with other similar scales reviewed for relevant components posted at the bottom of the scale. Questions are asked to determine the subject’s level of function, a score on a 50-point scale is calculated, and a report is formed, which can be printed out or placed in a computerized clinical note.

(25:15) The Brief Neurocognitive Assessment, which assess orientation to person, place, time, and historical information, then tests 5-word repletion and recall, with the distraction being animal naming in one minute. The animal naming has a built-in clock which must be started, and each animal name can either be reported with a successive click or by moving the RIGHT arrow. A score is calculated from 0-50, and a report is also generated.

(26:40) The DSM5 Inventory – takes the six DSM5 categories, Learning and Memory, Complex Attention, Executive Function/Attention, Language, Perceptual-Motor Function, and Social Cognition, and operationalizes a enquiry of the levels of function in each area on a six-point scale (0-5), allowing for a summary score of 50 points.

In the 1992 paper, it was demonstrated scale in patients diagnosed with AD that these scales correlated highly with each other, in a range of 0.86 to 0.91, with linear regression lines having similar slopes (0.91 to 1.04) and intercepts near zero (0.8 to 3.3). Accordingly, these scales report very similar values in patients ranging from those is minor neurocognitive disorder to severe dementia. Further, the values can be used to estimate to duration and rate of progression of the illness.

Other scales are needed to assess depression (e.g., the Yesavage Geriatric Depression Scale) and neuropsychiatric disturbances (e.g., the Cummings Neuropsychiatric Inventory). A scale for Brain Health Self-Assessment is also included, which could be part of a Brain Health Profile:

[www.brainhealthprofile.com](http://www.brainhealthprofile.com) . (28:30 done)