



Importance of Informants in Dementia Evaluation

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Definition of Dementia

- Dementia: Impairment in 2 or more cognitive domains sufficient to interfere with activities of daily living
- Impairment: Decline in cognitive function from previously attained levels
- Dementia diagnosis requires cognitive decline for that individual – principle of *intra-individual change*

Detection of Dementia

- Intra-individual cognitive change:
 - Serial cognitive testing (prospective); or
 - Informant hx (use patient as own control)
- Interference with activities of daily living
 - Informant hx
- Inter-individual comparison: cognitive test performance in relation to age- and education-matched norms; may not reflect either cognitive change or functional impairment

Limitations of Cognitive Tests

- Demography affects performance; poorer with:
 - Increasing age
 - Less education
 - Female sex
 - Rural residency
 - Lower occupational level
 - Minority status
 - Cultural, ethnic, and linguistic variables
- Cultural biases: measures developed and standardized among whites
- In nondemented elderly, equivalent in functional status and adjusted for education, 21% of AA vs 11% of whites met neuropsychologic criteria for “impairment sufficient for a dx of dementia”

Self-Reported Cognitive Function

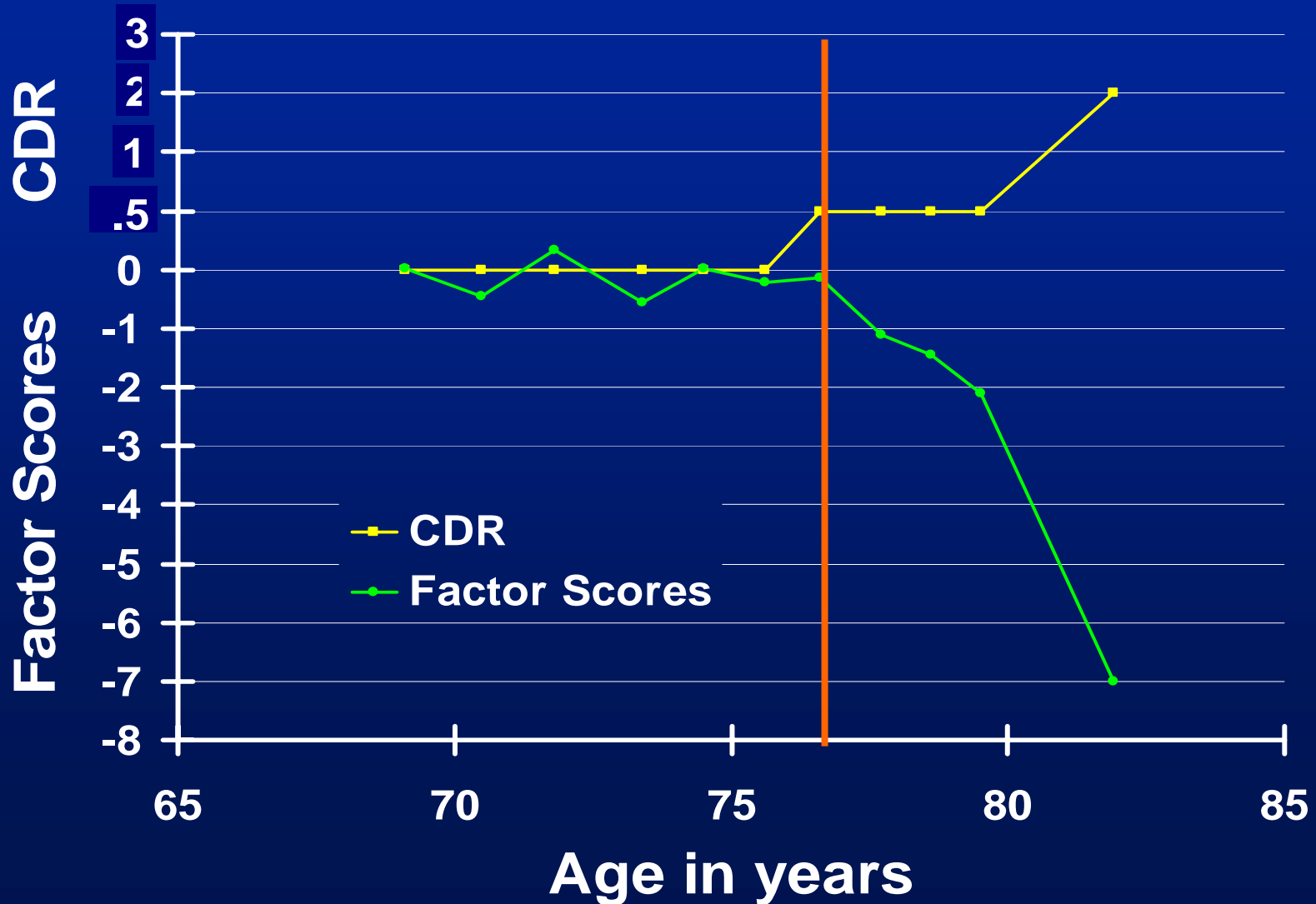
- Memory complaints are common (44% of normal elderly) but often are unrelated to disease
- Self-reported cognitive normality or impairment is unreliable
 - Does not correlate with psychometric performance
 - Does not predict future onset of dementia
- In contrast, informant reports are reliable guides of current cognitive status and, in nondemented elderly, predict development of dementia

Informant-based Assessment of Dementia

Advantages

- Face valid (relevant to everyday cognitive function)
- Longitudinal perspective (assess change)
- Cultural fairness (not confounded by demography)
- Absence of ceiling and floor effects
- Absence of practice effects
- Accurate; sensitive to even very mild dementia

Longitudinal Factor Scores for a Control Who Became Demented





Informant-based Assessment of Dementia

Disadvantages

- Informant availability
- Time

Characteristics of Informants

- Relationship to participant
 - ADRC:
 - » 47% spouse;
 - » 38% adult child;
 - » 15% other relative, friend, health professional
 - Community: of 225 randomly sampled older AA, 93% had informants
 - » 17% spouse
 - » 24% adult child
 - » 21% other relative
 - » 37% friend
- Frequency of contact
 - Living with participant/see frequently = most accurate
 - With less exposure, informants underestimate level of impairment



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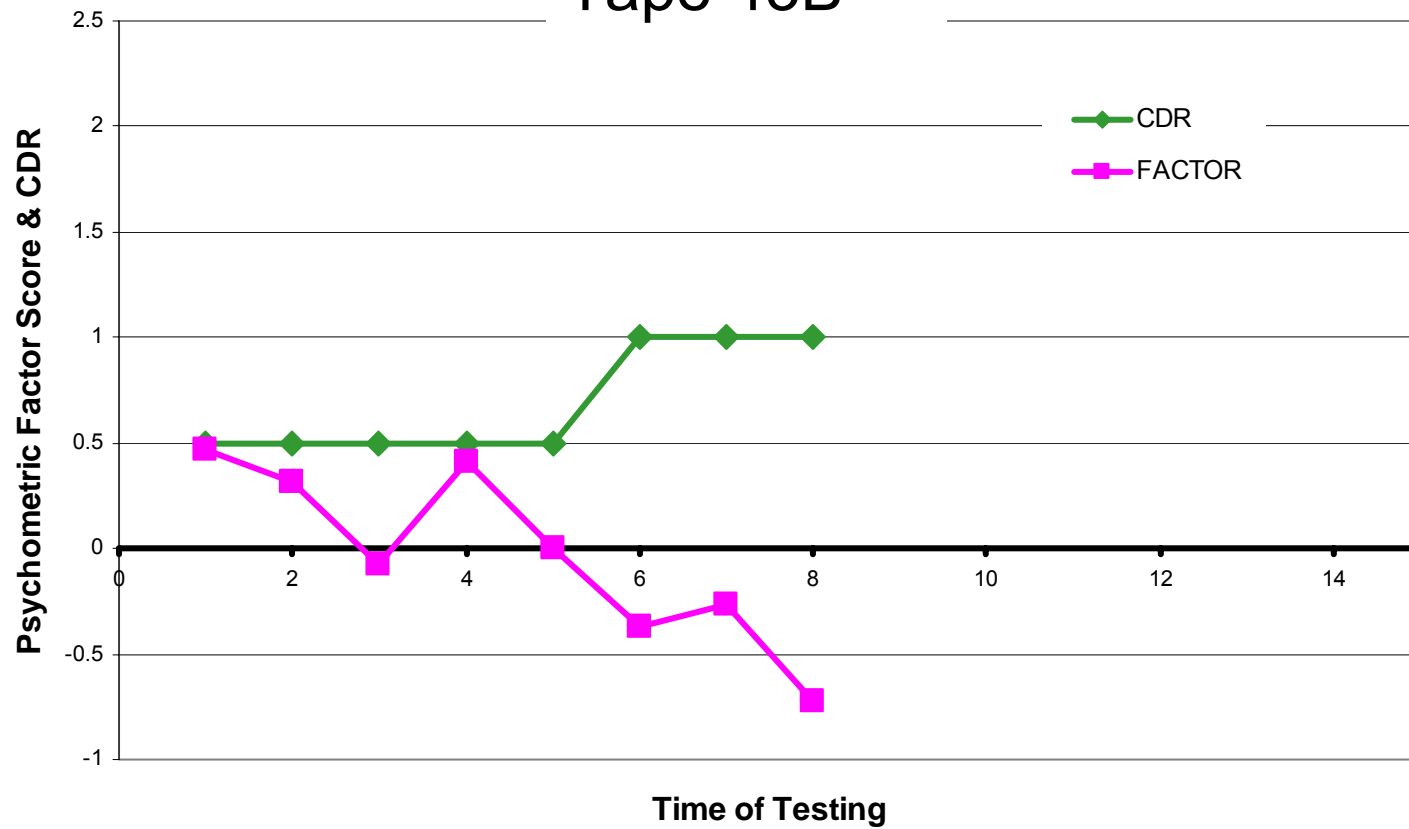
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Psychometric Performance

Measures	79 yo Participant (1998)	Norms for 142 CDR 0 controls (mean age = 71.4 y)
MMSE (30-0)	26	26-30
Logical Memory	3.5	7.7 (3.4)
Digit Span (F)	6	6.6 (1.2)
Digit Span (B)	4	4.7 (1.3)
Word Fluency	28	28.6 (10)
Boston Naming	58	53.2 (7.1)
WAIS Digit Symbol	50	43.5 (13.3)
WAIS Block Design	40	29.5 (9.1)

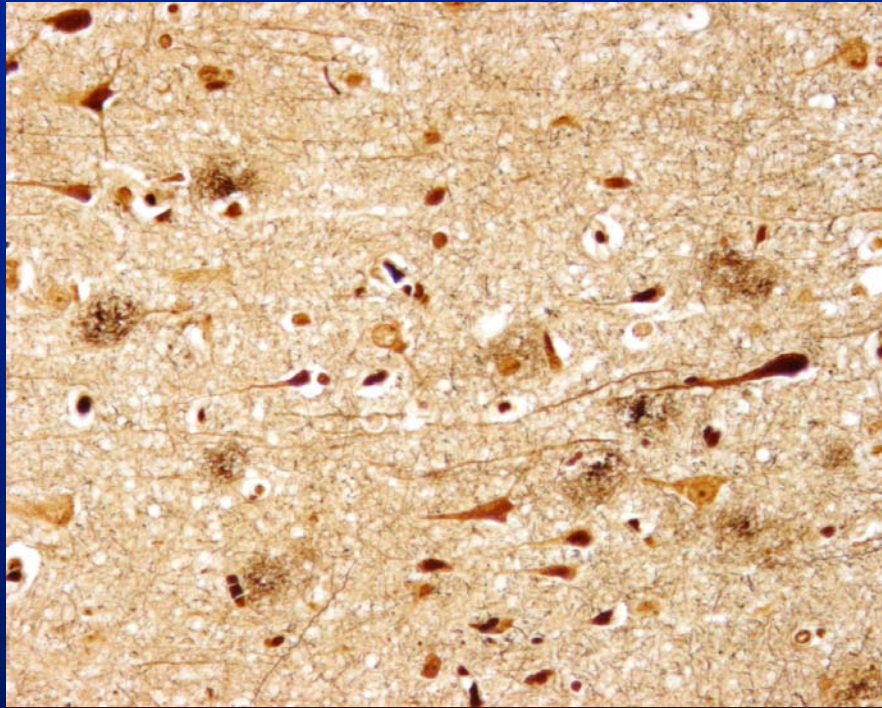


Tape 43B

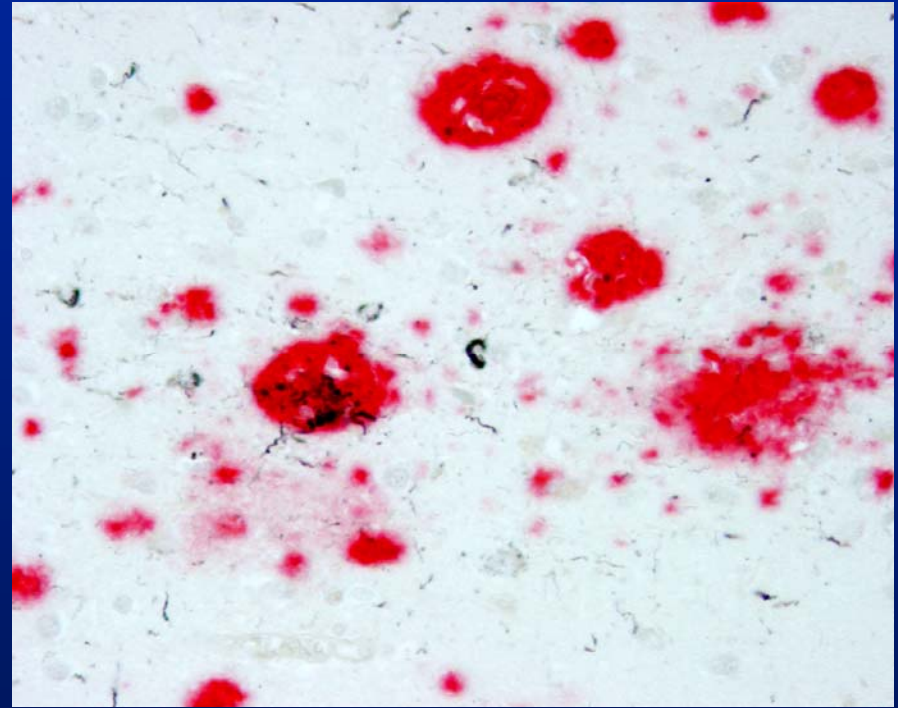


MCI / Early-Stage AD

Midfrontal Cortex



Bielschowsky, 400x



1005 A β + PHF-1 tau, 400x

83 yo Female



83 yo Female



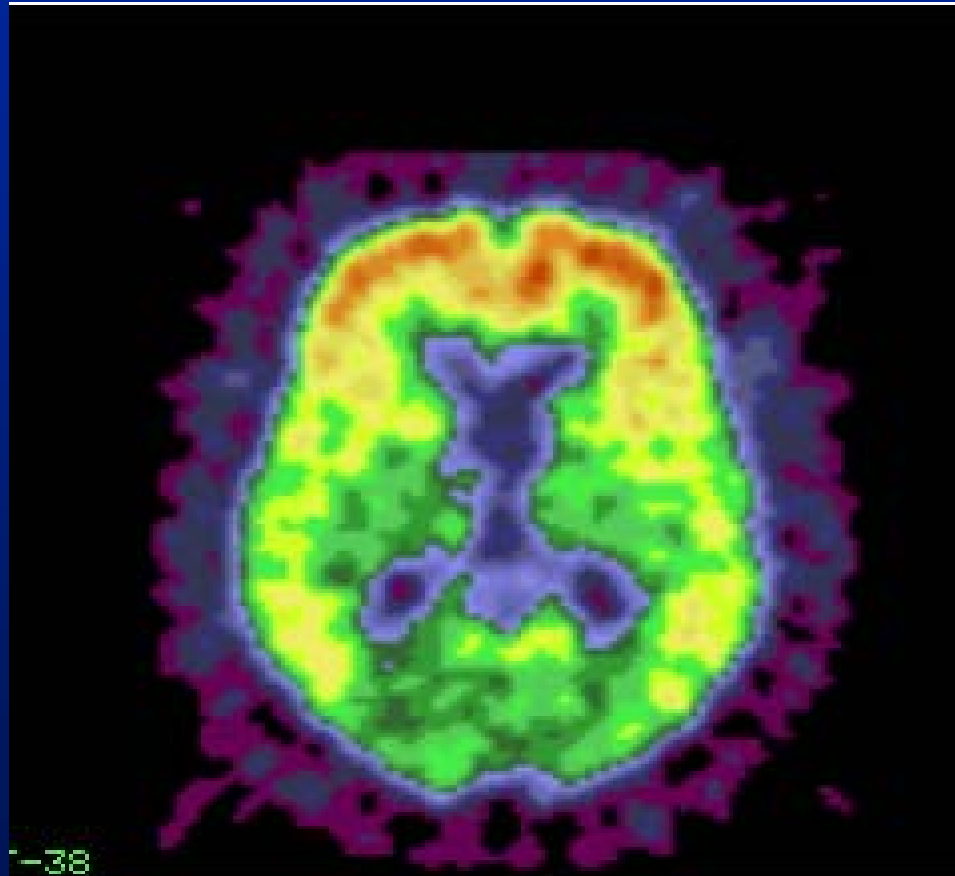


Psychometric Performances: PIB CDR 0.5 Participant (83F)

Measures	83 yo female (2005)	Norms for 142 CDR 0 controls (mean age = 71.4 y)
MMSE (30-0)	25	26-30
Logical Memory	6.5	7.7 (3.4)
Word Fluency	30	28.6 (10)
Boston Naming	41★	53.2 (7.1)
WAIS Digit Symbol	35	43.5 (13.3)
WAIS Block Design	24	29.5 (9.1)
Trails B (sec)	145	105 (45.6)

★ ≥ 1 SD below norms

83 yo Female





8-item Informant Interview to Differentiate Aging and Dementia* (PPV = 87% for CDR 0 vs CDR \geq 1)

Report only a change caused by memory and thinking difficulties:

1. Is there repetition of questions, stories, or statements?

2. Are appointments forgotten?

3. Is there poor judgment (eg, buys inappropriate items, poor driving decisions)?

4. Is there difficulty with financial affairs (eg, paying bills, balancing checkbook)?

5. Is there difficulty in learning or operating appliances (eg, television remote control, microwave oven)?

6. Is the correct month or year forgotten?

7. Is there decreased interest in hobbies and usual activities?

8. Is there overall a problem with thinking and/or memory?

*Adapted from Galvin et al, "The AD8: A Brief Informant-Interview to Detect Dementia", *Neurology*. 2005;65:559-564.

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