Cognitive Screening in Persons with HIV

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Disclosures

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Disclaimer

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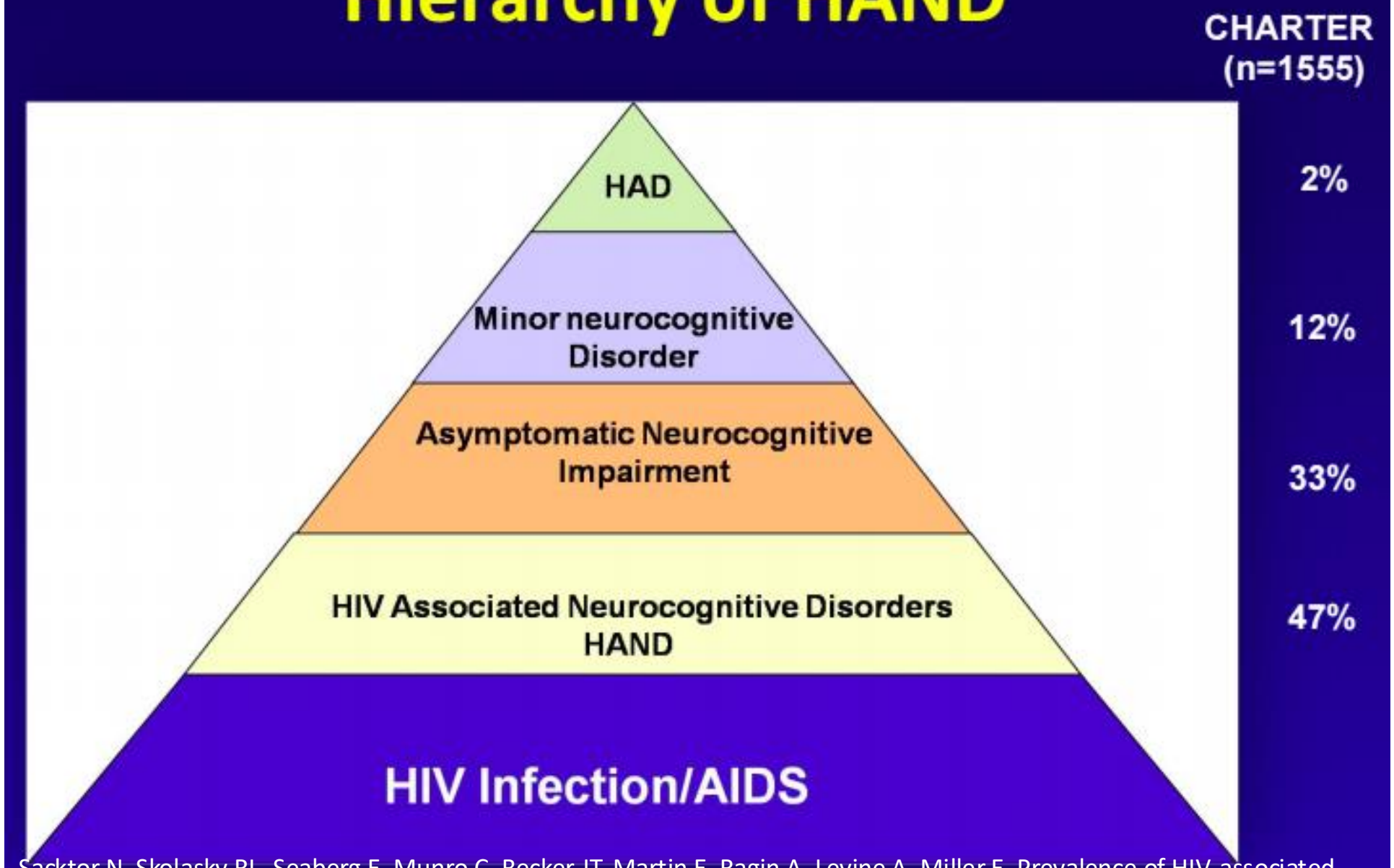
Hierarchy of HAND



Sacktor N, Skolasky RL, Seaberg E, Munro C, Becker JT, Martin E, Ragin A, Levine A, Miller E. Prevalence of HIV-associated neurocognitive disorders in the Multicenter AIDS Cohort Study. Neurology. 2016 Jan 26;86(4):334-40.

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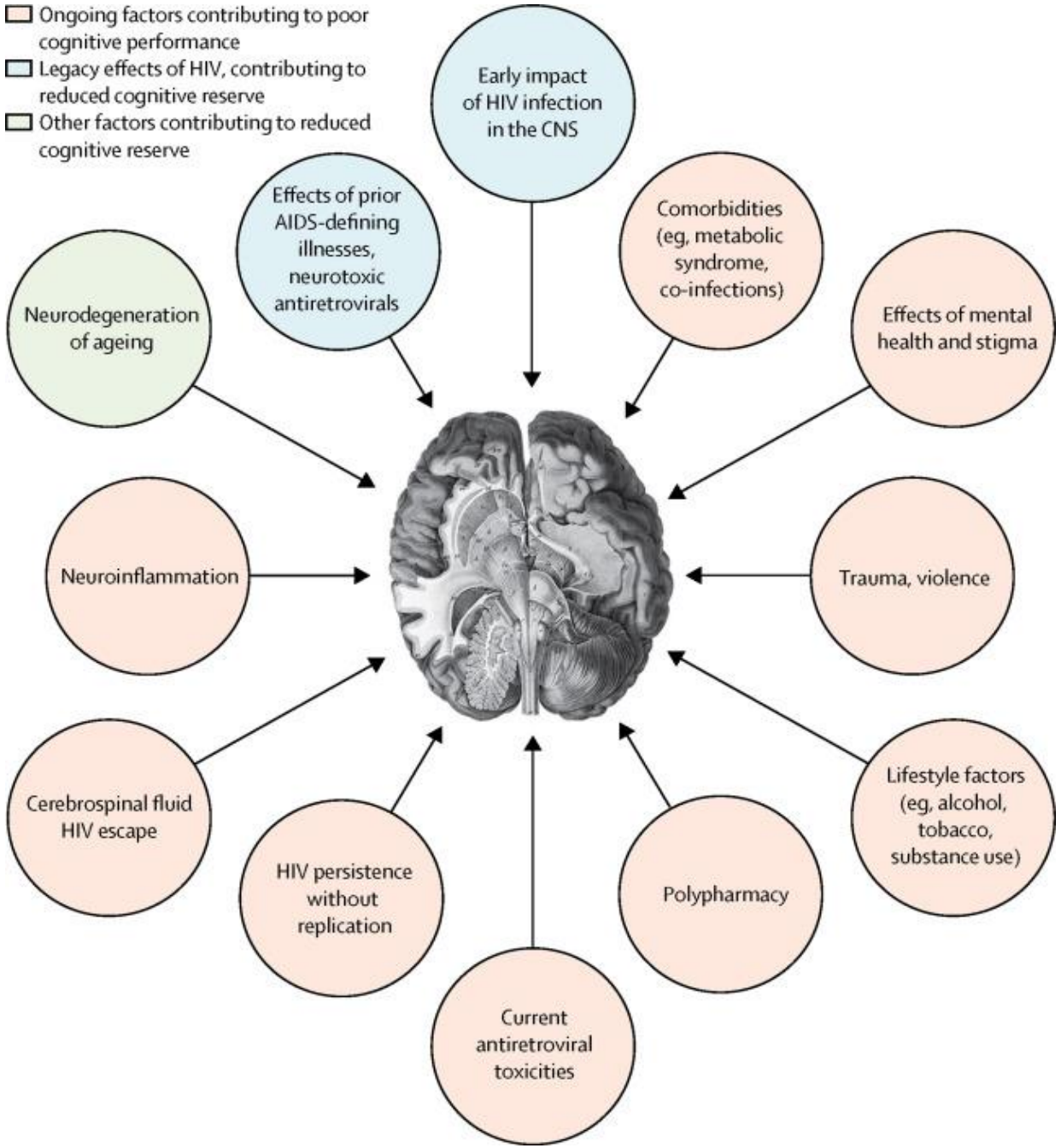

Winston A, Spudich S. Cognitive disorders in people living with HIV. Lancet HIV. 2020 Jul;7(7):e504-e513.

Controversies regarding cognition in PWH

- How to define cognitive impairment
- Who to screen and when
- Reliability of screening tools
- Is this all related to HIV?
  - Mental health
  - Substance use
  - Cultural considerations
  - Social determinants of brain health

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Clinical history tip: Focus on cognitive symptoms

- Subjective
- Cultural biases against reporting
- Limited insight
- Patient is the primary historian, but observer account is important
- Activities of Daily Living
- Stressors and changes in medical history/medications

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Case for and against mass screening in clinic

- For
  - Limited insight
  - Early recognition can provide guidance for the caregiver and help with adjustment
- Against
  - Anxiety/stigma
  - Lack of interventions
  - Clinical burden and lack of resources

Cognitive screening tools in PWH

- BRACE, CogState, and IHDS all had relatively high sensitivities of over 80% (84%, 81%, 91%, respectively)
- MoCA (69%) and MMSE (46%) had lower sensitivities
- BRACE had the highest specificity with 94%
- CogState (70%), MoCA (58%), MMSE (55%), had lower specificities
- IHDS had the lowest specificity of 17%

Reference re: BRACE: Rubin LH, et al. Tablet-Based Cognitive Impairment Screening for Adults With HIV Seeking Clinical Care: Observational Study. JMIR Ment Health. 2021 Sep 9;8(9):e25660.

Dantuluri ML, Rubin LH, Manabe YC, Moore RD, Althoff KN. Selection of cognitive impairment screening tools for longitudinal implementation in an HIV clinical care setting. AIDS Care. 2023 Oct;35(10):1619-1627.

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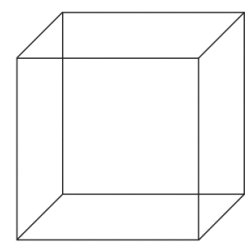
Maximum score	*Score*	*Subtests*
—	—	**Memory: registration** Give the patient four words to recall (dog, hat, green, peach)—one second to say each. Then ask the patient to recall all four after you have said them.
4	( )	**Attention** Antisaccadic eye movements: 20 commands. _____ errors of 20 trials. [≤ three errors = 4; four errors = 3; five errors = 2; six errors = 1; > six errors = 0] *Instructions for attention score: Hold both hands up at the patient's shoulder width and eye height, and ask the patient to look at your nose. Move the index finger of one hand, and instruct the patient to look at the finger that moves, then look back to your nose. Practice until the patient is familiar with the task. Then, instruct the patient to look at the finger that is NOT moving. Practice until the patient understands the task. Perform 20 trials. An error is recorded when the patient looks toward the finger that is moving.*
6	( )	**Psychomotor speed** Ask patient to write the alphabet in uppercase letters horizontally across the page and record time: _____ seconds. [≤ 21 seconds = 6; 21.1 to 24 seconds = 5; 24.1 to 27 seconds = 4; 27.1 to 30 seconds = 3; 30.1 to 33 seconds = 2; 33.1 to 36 seconds = 1; > 36 seconds = 0]
4	( )	**Memory: recall** Ask for the four words from memory registration (above). Give one point for each correct recall. For words not recalled, prompt with a semantic clue, as follows: animal (dog); piece of clothing (hat), color (green), fruit (peach). [one-half point for each correct recall after prompting]
2	( )	**Construction** Copy the cube below; record time: _____ seconds. [< 25 seconds = 2; 25 to 35 seconds = 1; > 35 seconds = 0] 
Total score	__/16*	

NOTE: *This scale requires training to administer and may not be preferable for use in a clinical setting. The Modified HIV Dementia Scale*[11] *omits the attention category and may be more suitable for administration by a physician. In the modified scale, the maximum possible score would be 12; < 7.5 points indicates possible HIV-associated dementia.*

HIV = human immunodeficiency virus.

**—A score of less than 10 points indicates possible HIV-associated dementia.*

Special considerations

- Quiet space
- Time
- Availability of technological tools and resources
- Ability to upload into EHR

Questions for your clinic

- Which tool may be the most accurate for my patient population?
- Which tool meets my clinic's HIPAA requirements?
- What is the best fit for our clinical flow?
- Which tools/resources can we afford?

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