AGEING&HIV

CHAIN UKI

CARE OF HIV AND AGEING IMPLEMENTATION NETWORK

Mind:

Where does HIV associated cognitive impairment fit in 2025?

Chair:
Prof Jaime Vera

Speakers:
Memory Sachikonye
Prof Alan Winston

ASK A QUESTION HERE

Brain health: Are we still sane?

Memory Sachikonye

UK Community Advisory Board (UK-CAB)

memory.sachikonye@ukcab.net; X: memsachi

Ageing & HIV: A multidisciplinary meeting on HIV and Ageing
12 September 2025

UK-CAB
HIV TREATMENT ADVOCATES NETWORK

Declarations

None

RM1

Our brain health will cover

1. Our experiences
2. Our brain health fears
3. Impact on our daily lives
4. How we ‘try’ to cope
5. Interventions?

Slide 134

RM1 Are these your notes? Make sure they are not visible on the slides - move them to the notes section

Rebecca Mbewe, 2025-04-21T11:32:29.083

Hormonal changes and the brain

- Oestrogen supports memory, mood and cognitive functions
- During menopause: decline in oestrogen → can affect neurotransmitters (e.g., serotonin, dopamine)
- **Common changes:**
  - Brain fog
  - Forgetfulness
  - Mood swings
  - Sleep disruption

Peri and menopausal women's experiences

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Ageing & HIV: A multidisciplinary meeting on HIV and Ageing 12 September 2025

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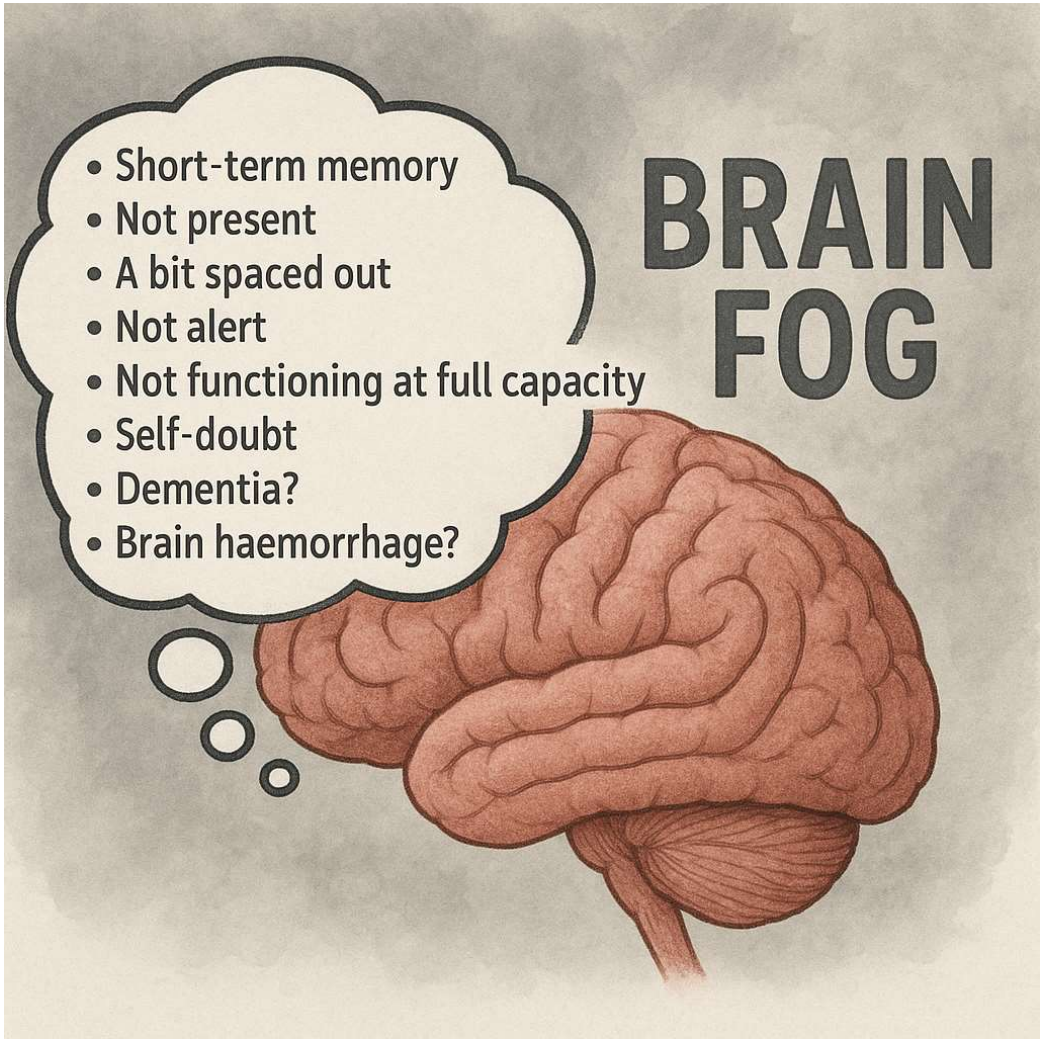

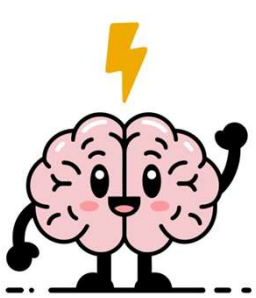

Impact on our daily lives

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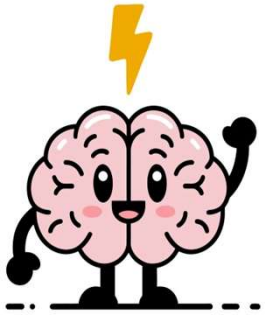
- **Memory lapses**
  - *Where did I put that thing?*
  - *I definitely know that face, but what's their name?*

- **Difficulty concentrating**
  - *Can I still get my work done?*
  - *Doing too many things that are left unfinished.*



- **Anxiety or irritability**
  - *Am I losing myself?*
  - *Double checking everything you do.*
  - *Is it just stress, or something worse?*
  - *What if it's something serious?*

- **Insomnia or poor-quality sleep**
  - *affects how well we think, react, work, learn, and get along with others*

Interventions

- Brain scan that came back normal, but I am still worried – ‘H’
- Had a memory test that did show short-term memory issues – ‘J’
- Electronic and paper calendars
- Meditation
- *“ I have not had any interventions with doctors, but I try to double-check things when I can, utilize my calendar.*

Coping strategies - selfcare

Mind and mood:

- **Exercise:** Boosts endorphins, supports cognition
- **Mindfulness & Meditation:** Helps reduce stress and improve focus
- **Sleep Hygiene:** Regular schedule, limit screens, cool/dark room

Diet:

- Omega-3s, leafy greens, berries, and hydration

Routine:

- Use lists, alarms, and planners to stay organized
- Break tasks into small chunks

Coping strategies

‘I try to reassure myself,

meditate, use movement,

speaking to loved ones about my fears,

doing things that bring me joy,

so I'm not constantly worrying' – ‘M’

Conclusion

- Menopause affects the brain—**we are not imagining it**
- Daily habits can make a big difference

- Find support—**you're not alone: my support network**

It’s not just women, men too:

https://tinyurl.com/2hcx4uar

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THANK YOU

to my peers at

Positively UK

who shared their own experiences

IMPERIAL

AGEING&HIV

Where does HIV associated cognitive impairment fit in 2025?

Alan Winston

August 2025

Overview

1	Defining brain health in persons with HIV
2	Some HIV considerations
3	Some non-HIV considerations
4	Management

1

Defining brain health in persons with HIV

Defining cognitive disorders

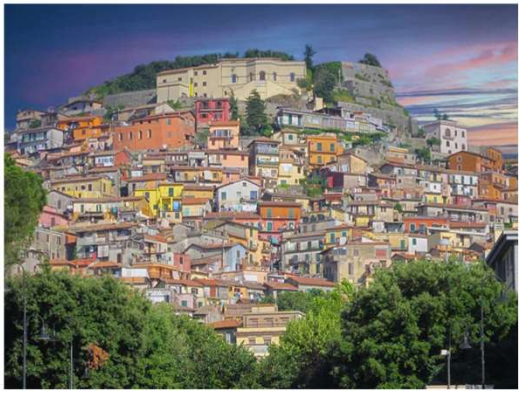
Before ART AIDS-dementia complex

ADC STAGE	CHARACTERISTICS
Stage 0:(Normal)	Normal mental and motor function.
Stage 0.5: (Equivocal/subclinical)	Either minimal or equivocal symptoms of cognitive or motor dysfunction characteristic of ADC, or mild signs (snout response, slowed extremity movements), but without impairment of work or capacity to perform activities of daily living (ADL). Gait and strength are normal.
Stage 1: (Mild)	Unequivocal evidence (symptoms, signs, neuropsychological test performance) of functional intellectual or motor impairment characteristic of ADC, but able to perform all but he more demanding aspects of work or ADL. Can walk without assistance.
Stage 2: (Moderate)	Cannot work or maintain the more demanding aspects of daily life, but able to perform basic activities of self care. Ambulatory, but may require a single prop.
Stage 3: (Severe)	Major intellectual incapacity (cannot follow news or personal events, cannot sustain complex conversation, considerable slowing of all output), or motor disability (cannot walk unassisted, requiring walker or personal support, usually with slowing and clumsiness of arms as well).
Stage 4: (End stage)	Nearly vegetative. Intellectual and social comprehension and responses are at a rudimentary level. Nearly or absolutely mute. Paraparetic or paraplegic with double incontinence.

HIV InSite Knowledge Base Chapter
Published June 1998

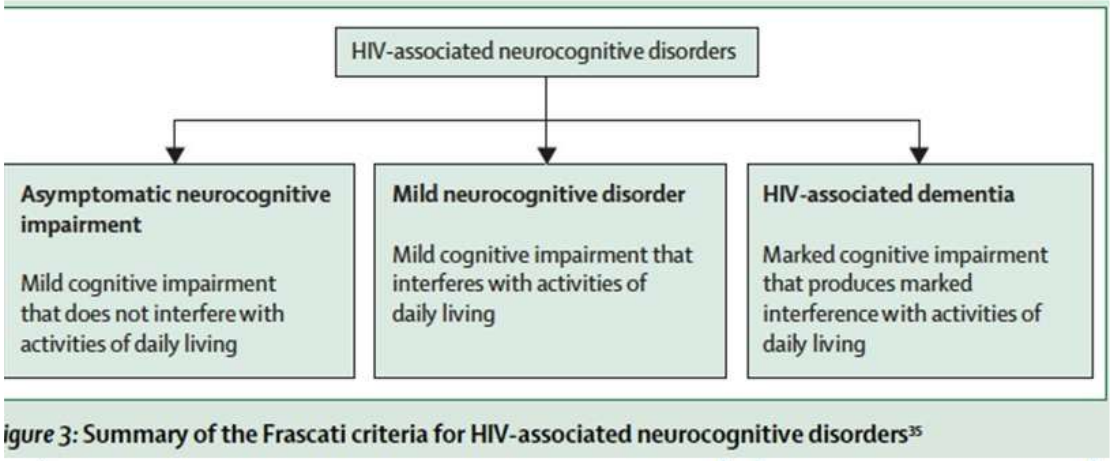
HIV-associated neurocognitive disorders (HAND)

- 2007 criteria – NIMH/NINDS working group
  - Defined at meeting in Frascati, Italy.
- Remains most used approach
  - "Currently people with HIV live longer with nearly undetectable viral loads, however neurocognitive impairment persists in a considerable proportion of the population. It is estimated that about 40-50% of people with HIV develop HAND".



Antinori et al. Neurology. 2007

HAND has a high false classification rate

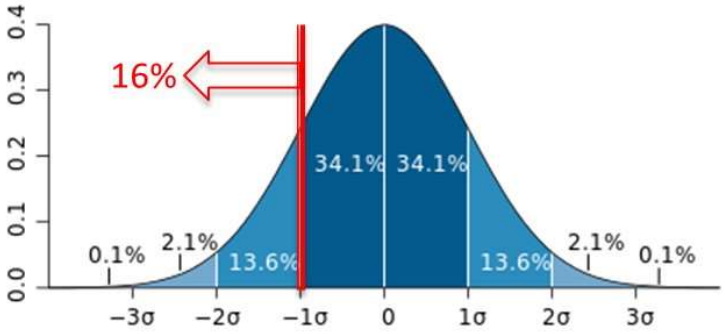


igure 3: **Summary of the Frascati criteria for HIV-associated neurocognitive disorders[35]**

>1SD on >1 domain

>2SDs on >1 domain

Compared with controls matched for age, sex and years of educatic
Exclusion of confounders

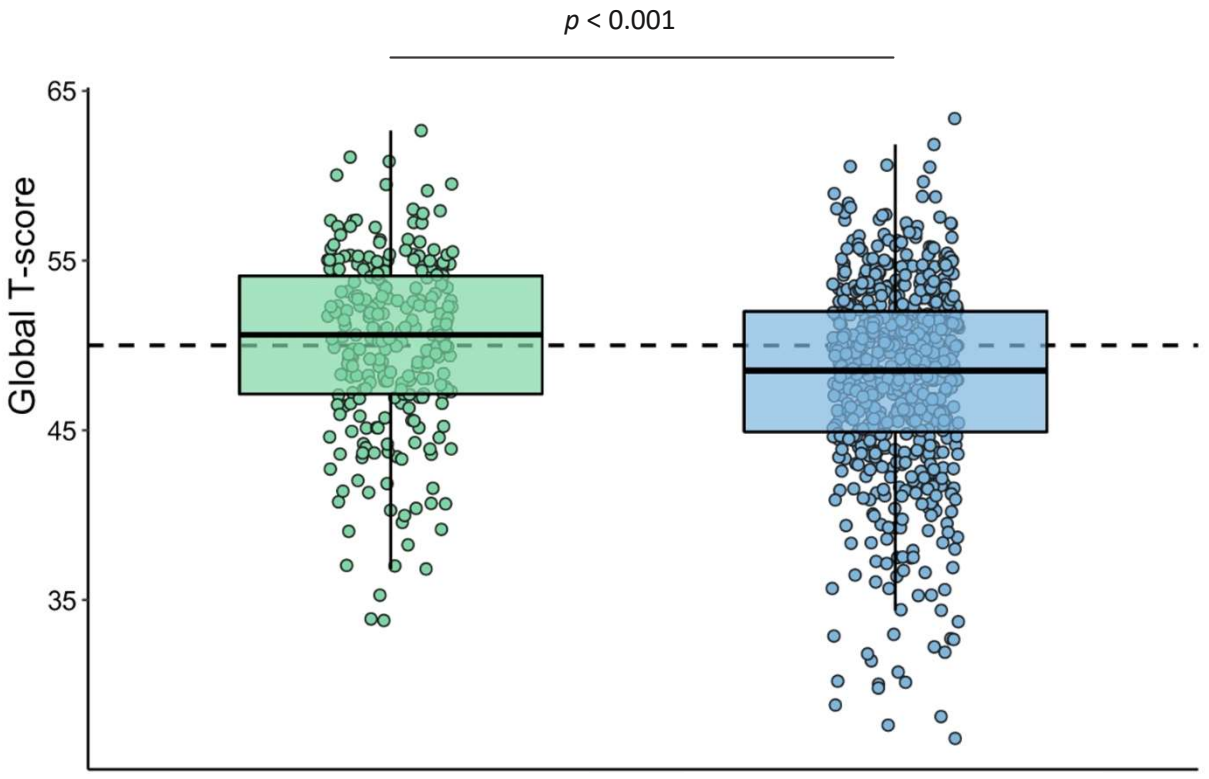


- False positive rate ~26%

Gisslen M et al. BMC Inf Dis. 2011

POPPY
Pharmacokinetic and clinical observations in people over 50

Cognitive function in the POPPY cohort



BMC Infect Dis. 2016 Oct 28;16(1):617

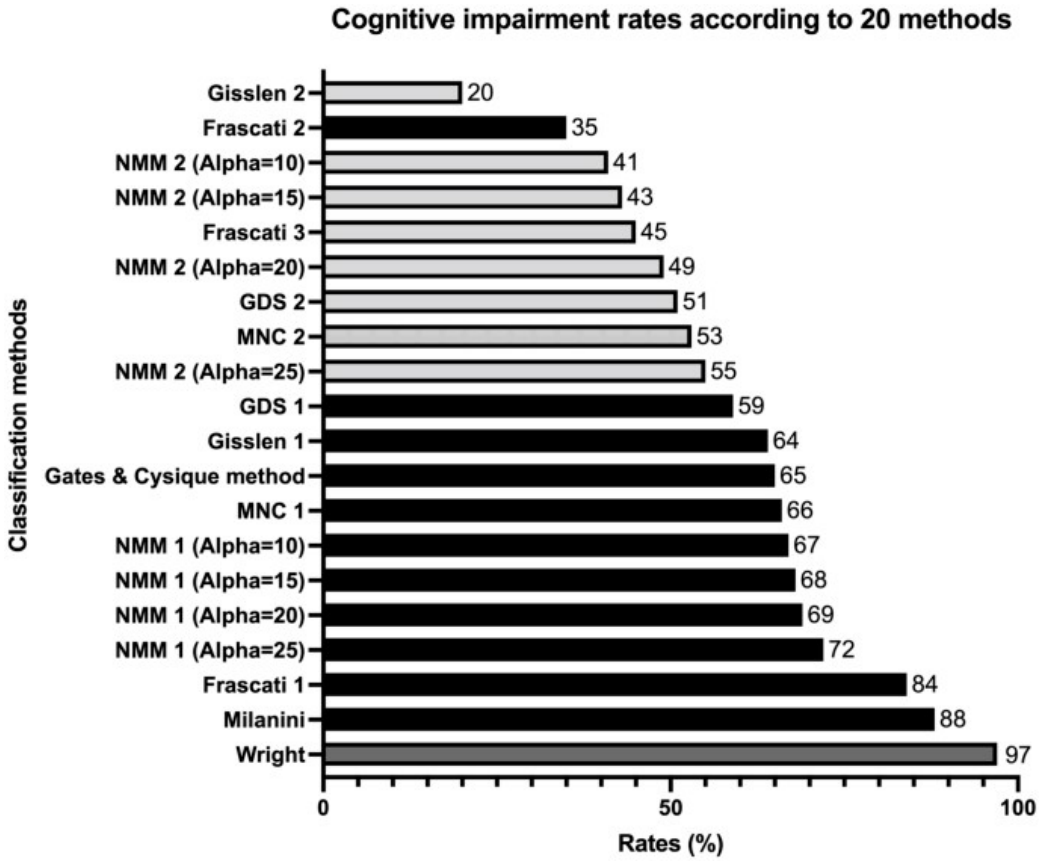
Cognitive impairment in Cape Town

Published: 09 July 2021

Rates of cognitive impairment in a South African cohort of people with HIV: variation by definitional criteria and lack of association with neuroimaging biomarkers

Anna J. Dreyer, Sam Nightingale, Jodi M. Heaps-Woodruff, Michelle Henry, Hetta Gouse, Robert H. Paul, Kevin G. F. Thomas & John A. Joska

Journal of NeuroVirology **27**, 579–594 (2021) | Cite this article



Implications for people with HIV

UK Civil Aviation Authority announces landmark changes for pilots and air traffic controllers living with HIV

20 June 2022 | Pilots , Medical

Home / News / UK Civil Aviation Authority announces landmark ch

The UK Civil Aviation Authority, with the support of the Terrence Higgins Trust, the National AIDS Trust and the British HIV Association, has today issued a landmark package of measures for pilots living with HIV to support them flying and continuing with their careers.

The regulator has published important new guidance on how pilots living with HIV will be medically assessed to obtain and continue to hold their UK licences. The regulator's new guidance confirms that with a timely diagnosis of HIV and antiretroviral therapy, there is a much lower risk of a pilot suffering conditions that could impair their ability to safely fly aircraft.

This is a significant milestone in the global aeromedical assessment of HIV. It means there is a now a much clearer way for pilots living with HIV to obtain unrestricted (Class 1) medical certification in the UK. For some pilots living with HIV, it will also reduce the need for additional cognitive testing. The guidance also covers Class 3 medical certificate applicants who work, or wish to work, as air traffic control officers.

Implications for people with HIV

CLINICAL SCIENCE

Impact of HIV on Cognitive Performance in Professional Drivers

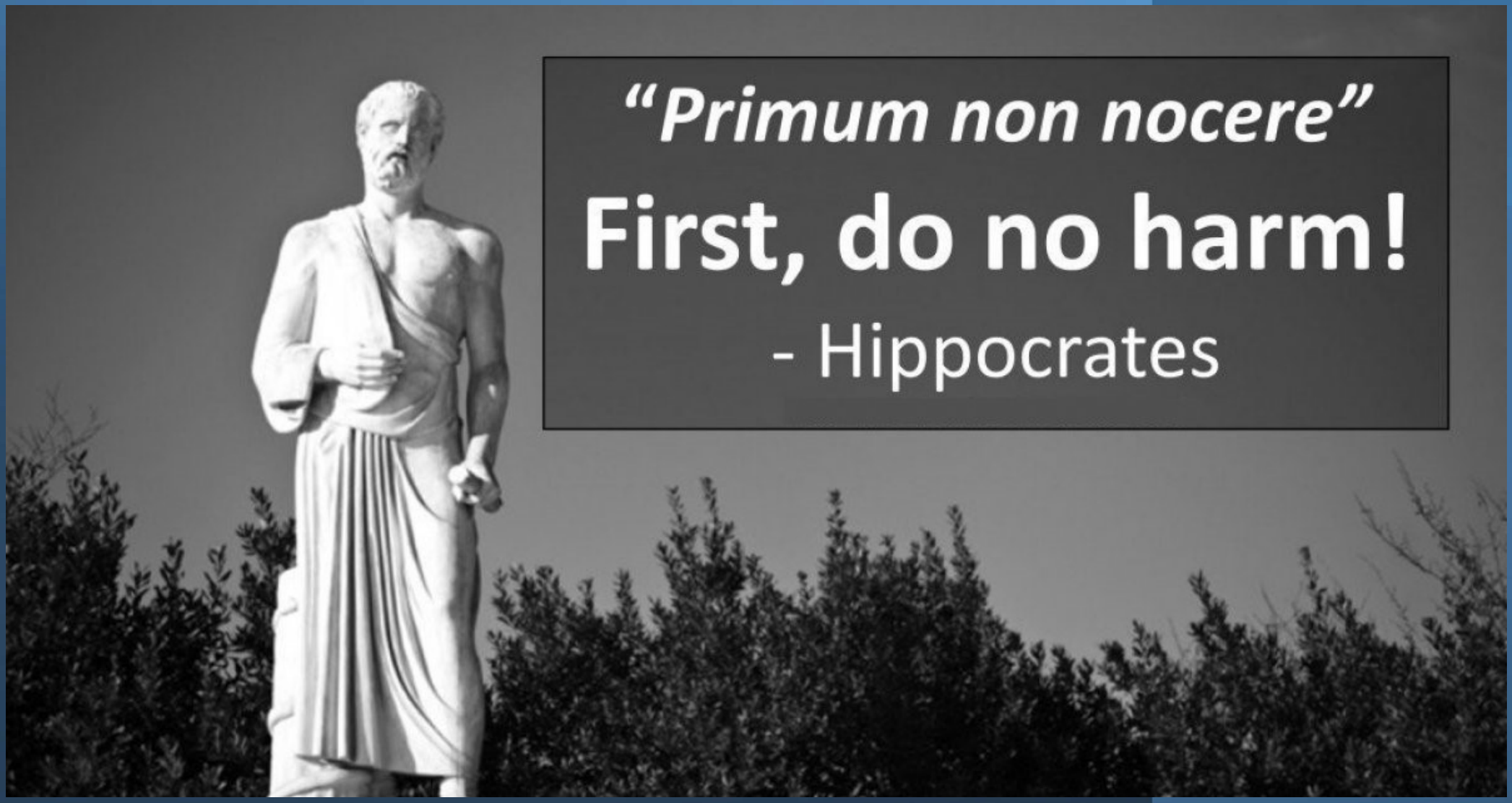
Gouse, Hetta PhD[a]; Masson, Catherine J. MA[a]; Henry, Michelle PhD[b]; Dreyer, Anna MA[a]; Robbins, Reuben N. PhD[c]; Kew, Greg MBChB, DOH, ACPHM (Occ Med)[d]; Joska, John A. MBChB, MMed (Psych), PhD, FCPsych (SA)[a]; London, Leslie MB ChB, MD, BSc Hons (Epid), DOH, M Med (PH)[d]; Marcotte, Thomas D. PhD[e]; Thomas, Kevin G. F. PhD[f]

Author Information

JAIDS Journal of Acquired Immune Deficiency Syndromes: April 15, 2022 - Volume 89 - Issue 5 - p 527-536
doi: 10.1097/QAI.0000000000002899

Conclusion:

Drivers with HIV may be at risk of poorer long-term health and employment outcomes. Programs that monitor and support their long-term cognitive health are needed.


"Primum non nocere"
First, do no harm!
- Hippocrates

Consensus recommendations

nature reviews neurology

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nature > nature reviews neurology > consensus statements > article

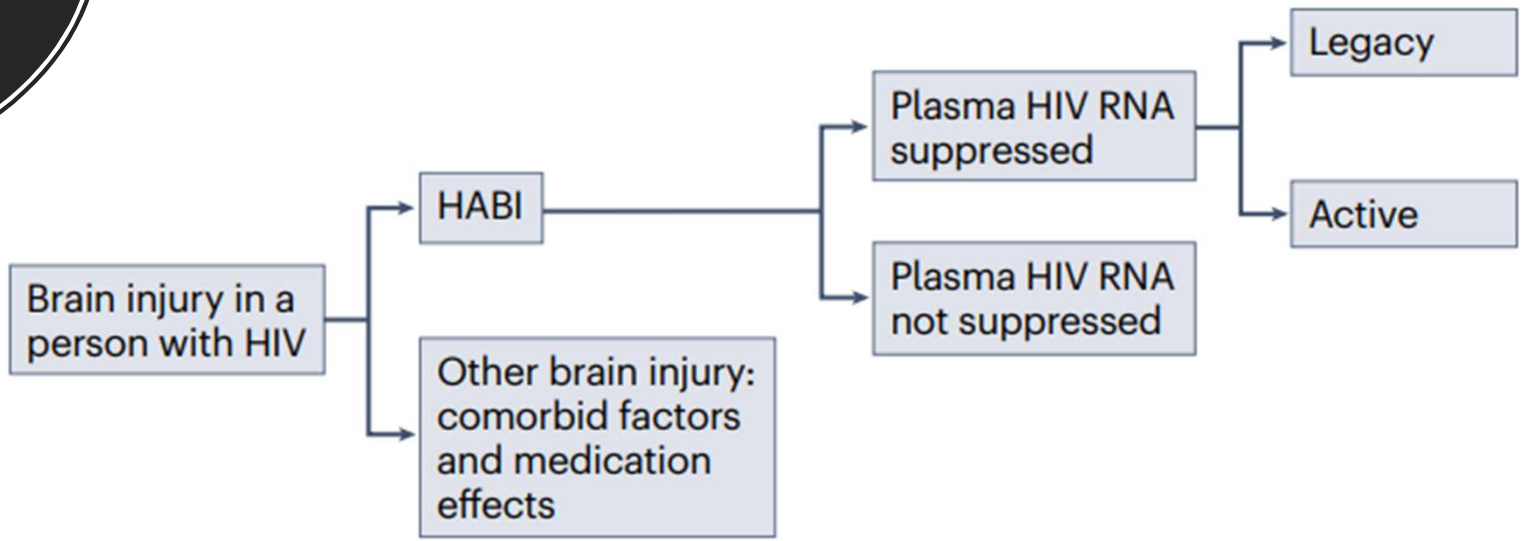
Consensus Statement | Published: 13 June 2023

Cognitive impairment in people living with HIV: consensus recommendations for a new approach

Sam Nightingale ✉, Beau Ances, Paola Cinque, Ameet Dravid, Anna J. Dreyer, Magnus Gisslén, John A. Joska, Judith Kwasa, Ana-Claire Meyer, Nombeko Mpongo, Noeline Nakasujja, Roger Pebody, Anton Pozniak, Richard W. Price, Christopher Sandford, Deanna Saylor, Kevin G. F. Thomas, Jonathan Underwood, Jaime H. Vera & Alan Winston

Nature Reviews Neurology **19**, 424–433 (2023) | Cite this article

7284 Accesses | **14** Citations | **17** Altmetric | Metrics



2

Some HIV considerations

Implications of early ART

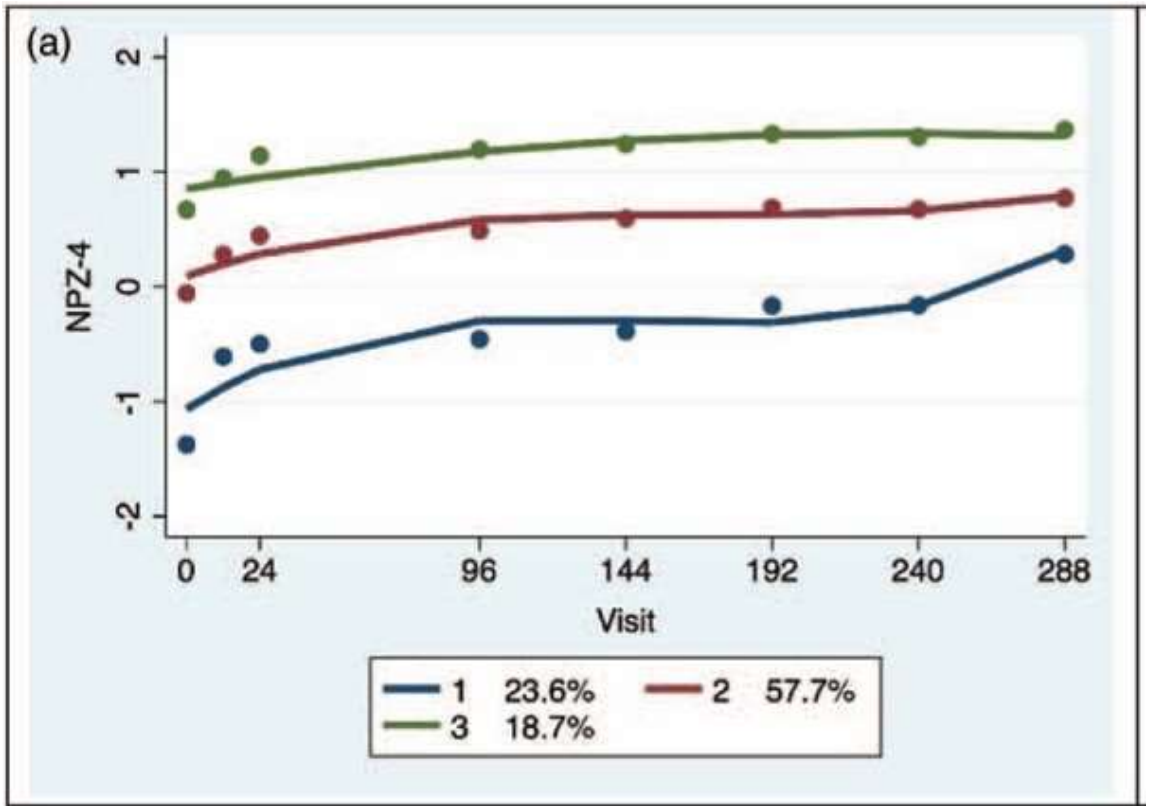
CLINICAL SCIENCE

Cognitive trajectories after treatment in acute HIV infection

Chan, Phillip[a]; Kerr, Stephen J.[b,c]; Kroon, Eugène[a]; Colby, Donn[a,d]; Sacdalan, Carlo[a]; Hellmuth, Joanna[e]; Reiss, Peter[f]; Vasan, Sandhya[d,g]; Ananworanich, Jintanat[a,f]; Valcour, Victor[e]; Spudich, Serena[h]; Paul, Robert[i]

Author Information

AIDS 35(6):p 883-888, May 1, 2021. | *DOI:* 10.1097/QAD.0000000000002831



Switching ART

Cognitive performance, neuropsychiatric symptoms, and cerebrospinal fluid viral control following programmatic switch from efavirenz-based to dolutegravir-based antiretroviral therapy in South Africa (CONNECT): a prospective cohort study

Sam Nightingale, Anna J Dreyer, Kevin G F Thomas, Gert van Zyl, Eric Decloedt, Petrus J W Naude, Catherine Orrell, Phumla Sinxadi, Alan Winston, Saye Khoo, John A Joska

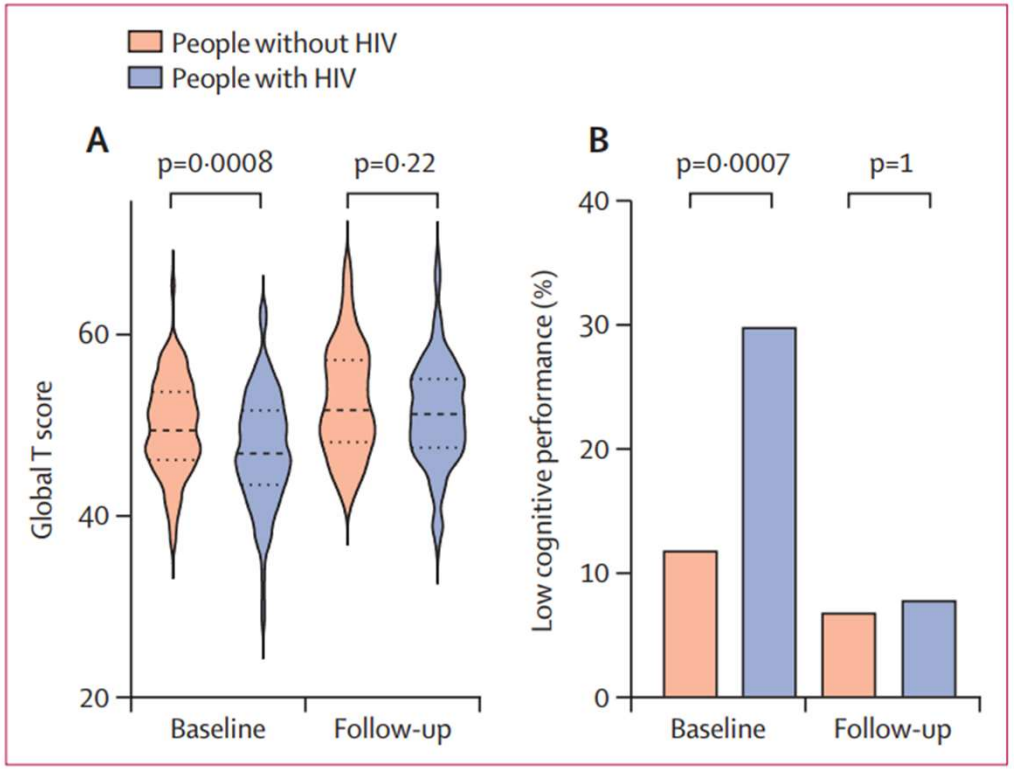
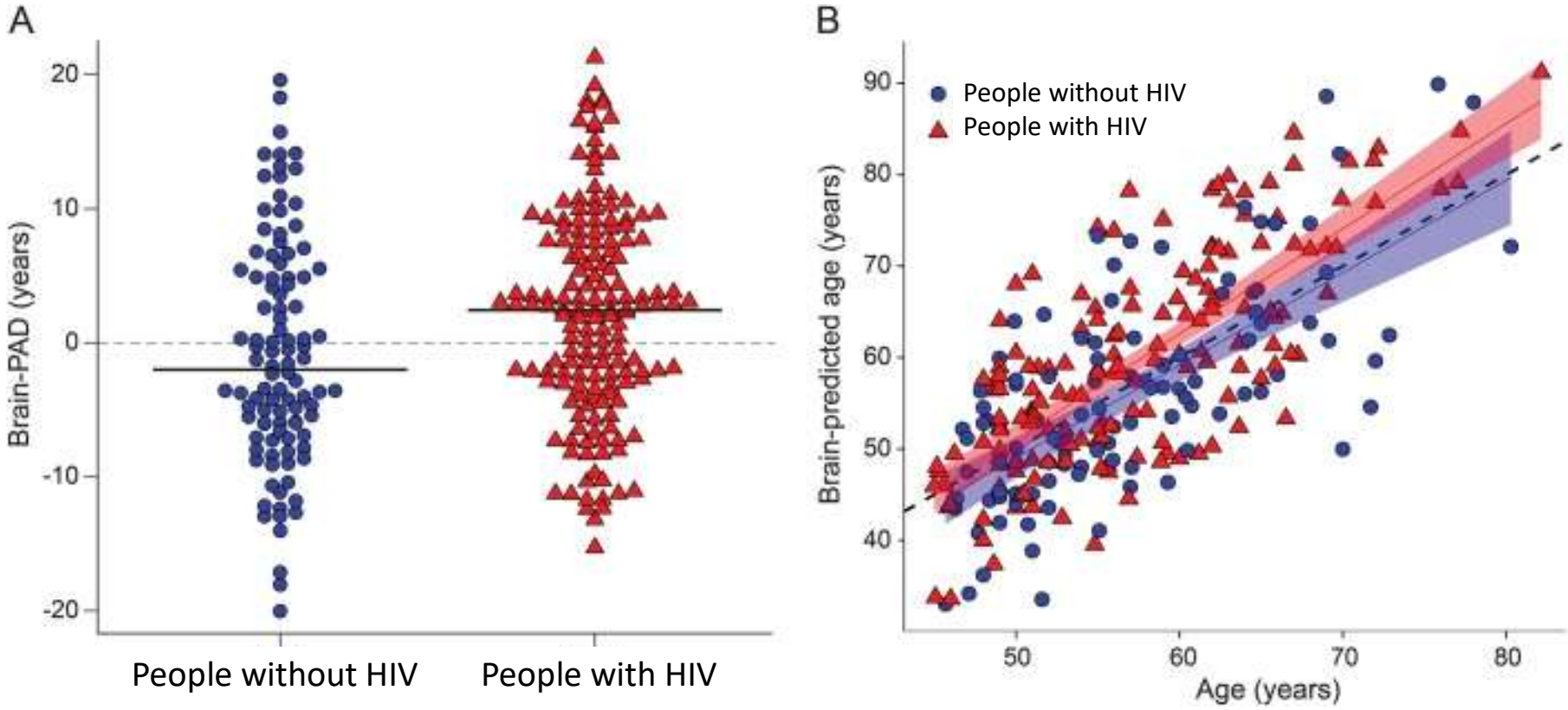


Figure 2: **Cognitive performance at baseline (on efavirenz) and follow-up (on dolutegravir)**
(A) Global T score. (B) Global deficit score.

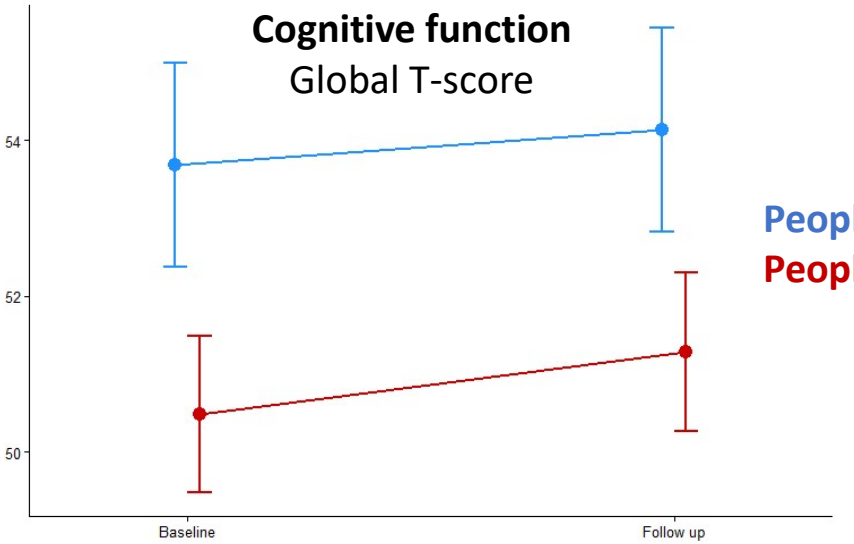
Lancet HIV 2024; 11: e680–89

Brain predicted age



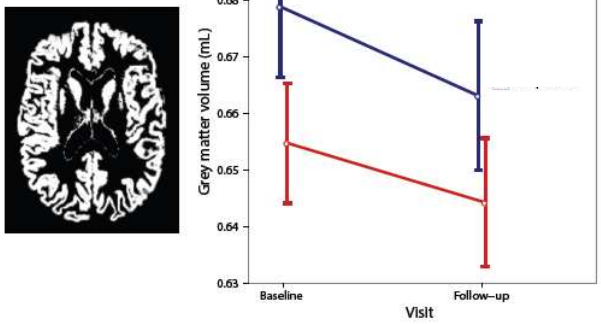
Neurology 2017 Apr 4;88(14):1349-1357

Longitudinal trajectories: COBRA

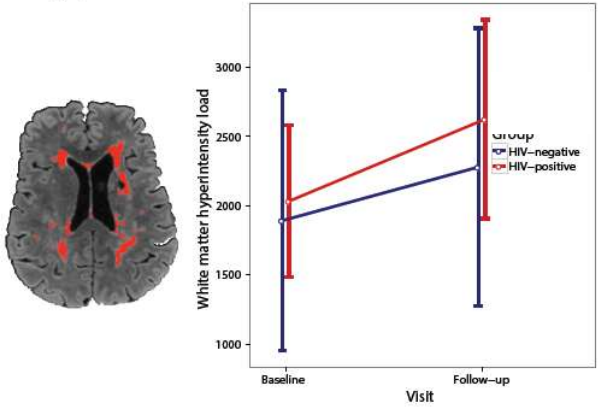


People without HIV
People with HIV

A) T1 - Grey matter volume



B) FLAIR - White Matter Hyperintensities



Clin Infect Dis. 2018 Jun 1;66(12):1899-1909

Case 1
History

68-year-old woman

HIV history

- HIV diagnosed 1997, commenced ART 2002
- Several ART combinations and drug-resistant virus
- Currently undetectable

Other medical history, social, lifestyle

- BMI 34
- HbA1c in pre-diabetic range
- BP normal
- On a statin

Symptoms

- 6-week history of headaches
- Finding it difficult to multitask

Case 1
History

68-year-old woman

Neurological examination

- Normal

Brain imaging

- Some periventricular WM changes, no previous scan

CSF examination

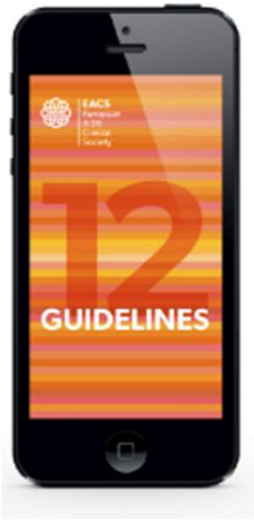
	Result
CSF Protein g/L	0.85
CSF WBC cells/µL	40
CSF Viral PCRs	negative
CSF HIV RNA copies/mL	1,200

Is this CSF HIV RNA escape?

Virological definition of CSF HIV RNA escape:

- either CSF HIV RNA detectable and plasma HIV RNA undetectable
- or both CSF HIV RNA and plasma HIV RNA detectable, with CSF HIV RNA higher than plasma HIV RNA

NIH National Institute of Mental Health



AIDS 2019: PMID 31790376

Prevalence of CSF HIV RNA escape

HIV MEDICINE | BHIVA

SHORT COMMUNICATION | Open Access

Cerebrospinal fluid virology in people with HIV

Merle Henderson, Nuala Pepper, Manraj Bawa, David Muir, Alex Everitt, Nicola E. Mackie, Alan Winston

First published: 09 March 2023 | https://doi.org/10.1111/hiv.13471

Characteristic	Total cohort, *n* = 114	CSF escape, *n* = 19	No CSF escape, *n* = 95
Demographics			
Age (years), mean (SD)	48.8 (13.0)	51.6 (13.1)	48.3 (13.0)
Male sex, *n* (%)	81 (71)	10 (52)	71 (75)
Ethnicity, *n* (%)			
White	49 (43)	7 (37)	42 (44)
Black	30 (27)	7 (37)	23 (24)
Other	35 (31)	5 (26)	30 (32)

Symptoms of CSF HIV RNA escape

CLINICAL SCIENCE: CONCISE COMMUNICATION

The symptomatology of cerebrospinal fluid HIV RNA escape: a large case-series

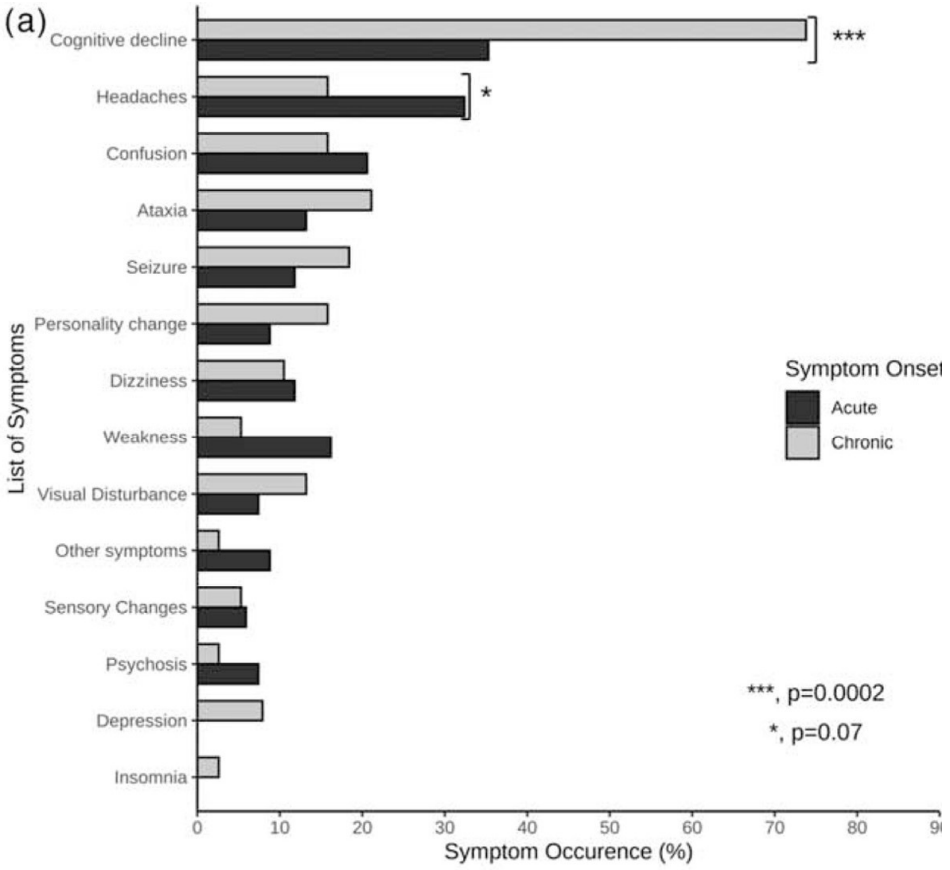
Chan, Terrence Y.-H.[a]; De Zan, Valentina[b]; Gregg, Alistair[c]; Alagaratnam, Jasmini[d,e]; Gerevini, Simonetta[e]; Antinori, Andrea[f]; D'Arminio Monforte, Antonella[g]; Saracino, Annalisa[h]; Trunfio, Mattia[i]; Everitt, Alex[j]; Rackstraw, Simon[a,k,l]; Marta, Monica[k,l]; Calcagno, Andrea[i]; Cinque, Paola[b]; Winston, Alan[c,d]

Author Information

AIDS 35(14):p 2341-2346, November 15, 2021. | *DOI:* 10.1097/QAD.0000000000002992

Table 1 - Subject demographic and laboratory characteristics at the time of diagnosis (*n* = 106).

Baseline characteristics	
Age (years)	51 (47–56)
Male, *n* (%)	65 (61.3)
Time since first positive HIV test (months)	144 (75.5–212.5)



Risk factors for CSF HIV RNA escape

1. Previous symptomatic CSF HIV RNA escape
2. Difficulty with ART compliance
3. Antiretroviral drug resistance
4. Use of boosted PIs (questionable)

Clinical scenario

	Clinical Scenario	Biology	Presentation	CSF HIV RNA	CSF WCC
1	**Asymptomatic**	Equivalent to plasma blips	Incidental finding	<200 copies/mL	Normal
2	**Neurologically symptomatic**	Virological failure in CNS compartment	New or progressive neurological symptoms		Can be elevated
3	**Secondary**	Viral replication related to another infection	Presence of another infection		Often elevated

Curr HIV/AIDS Rep (2015) 12: 280

Clinical scenario

	Clinical Scenario	Biology	Presentation	CSF HIV RNA	CSF WCC
1	**Asymptomatic**	Equivalent to plasma blips	Incidental finding	<200 copies/mL	Normal
2	**Neurologically symptomatic**	Virological failure in CNS compartment	New or progressive neurological symptoms		Can be elevated
3	**Secondary**	Viral replication related to another infection	Presence of another infection		Often elevated
4	**Lag effect**	CSF HIV RNA taking longer to suppress compared to plasma			Often normal

Management CSF HIV RNA escape

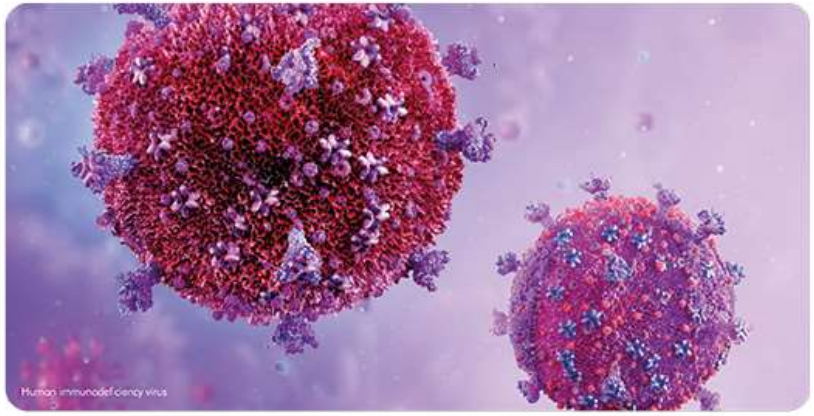
PATHOLOGY TESTS EXPLAINED

Information about pathology tests to help everyone take control of their health and make the right decisions about their care.

WHAT YOU SHOULD KNOW ABOUT
GENOTYPE TESTING FOR HIV DRUG RESISTANCE

Genotypic drug resistance testing can help make sure your HIV treatment is working effectively. If drug resistance is found, a new treatment can be used instead.

The human immunodeficiency virus (HIV) is the virus that causes HIV infection. The treatment for HIV is antiretroviral therapy (ART). ART medications stop the virus from multiplying. They cannot cure HIV but they can keep the virus under control.



3

Some non-HIV considerations

Case 2
History

82-year-old man

HIV and medical history

- Living with HIV for 30 years
- On ART with suppressed viral load
- Several AIDS defining illnesses including PCP in 1990s
- Hypertension and type II DM, both on optimal treatment

Social and lifestyle history

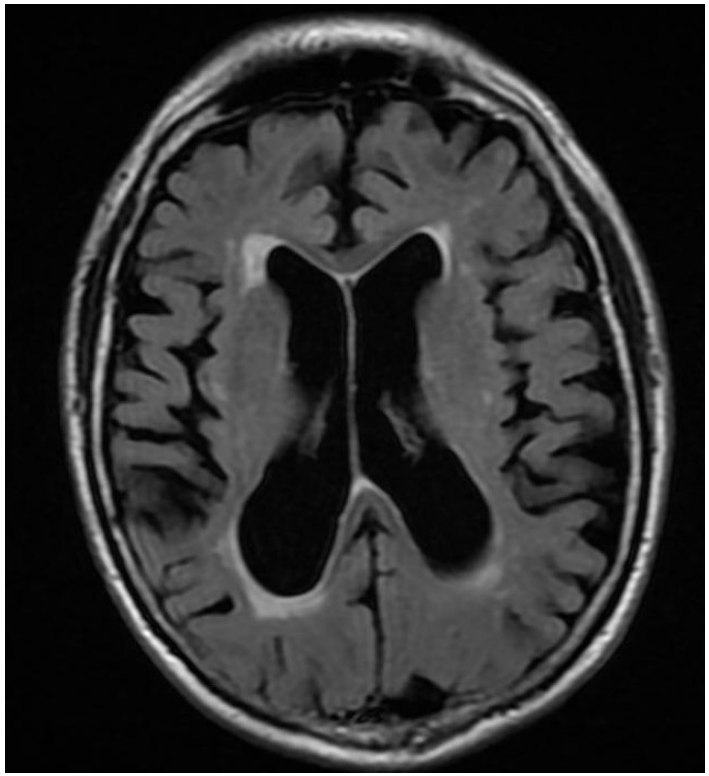
- Lives alone and independent
- Mental health is good

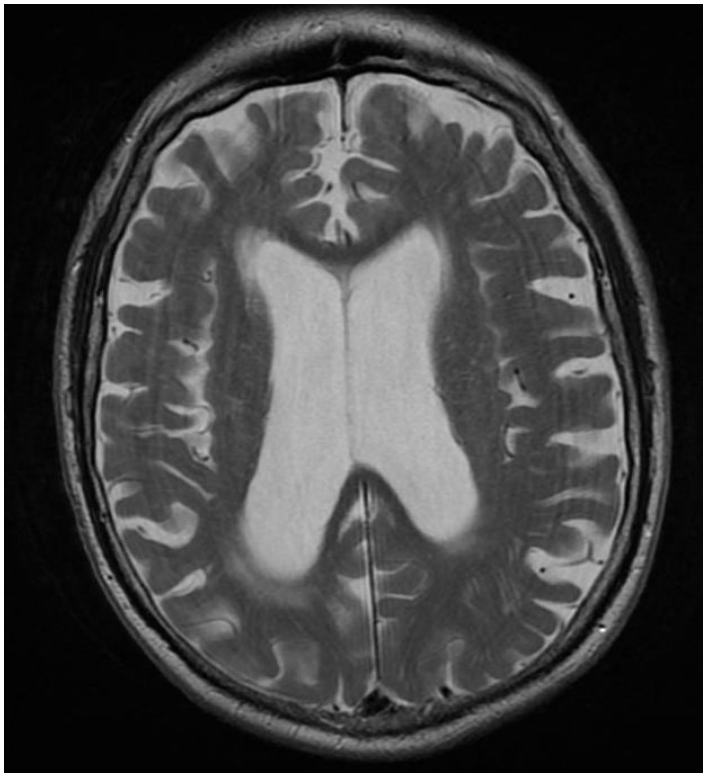
Symptoms

- Concentration difficulties over 3 years, progressively worsening
- Cognitive testing confirms impairment predominantly in short term memory

Case 2
Imaging

82-year-old man





Neurodegenerative conditions

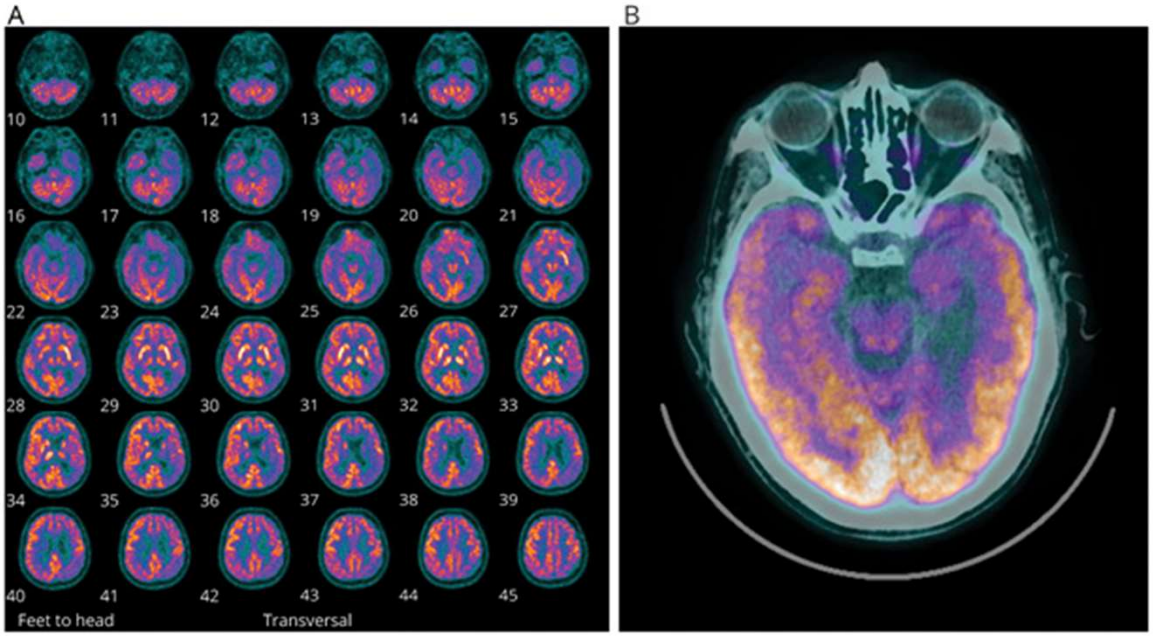
Neurology® Clinical Practice | American Academy of Neurology

Neurol Clin Pract. 2021 Oct; 11(5): e627–e633.
doi: 10.1212/CPJ.0000000000001060

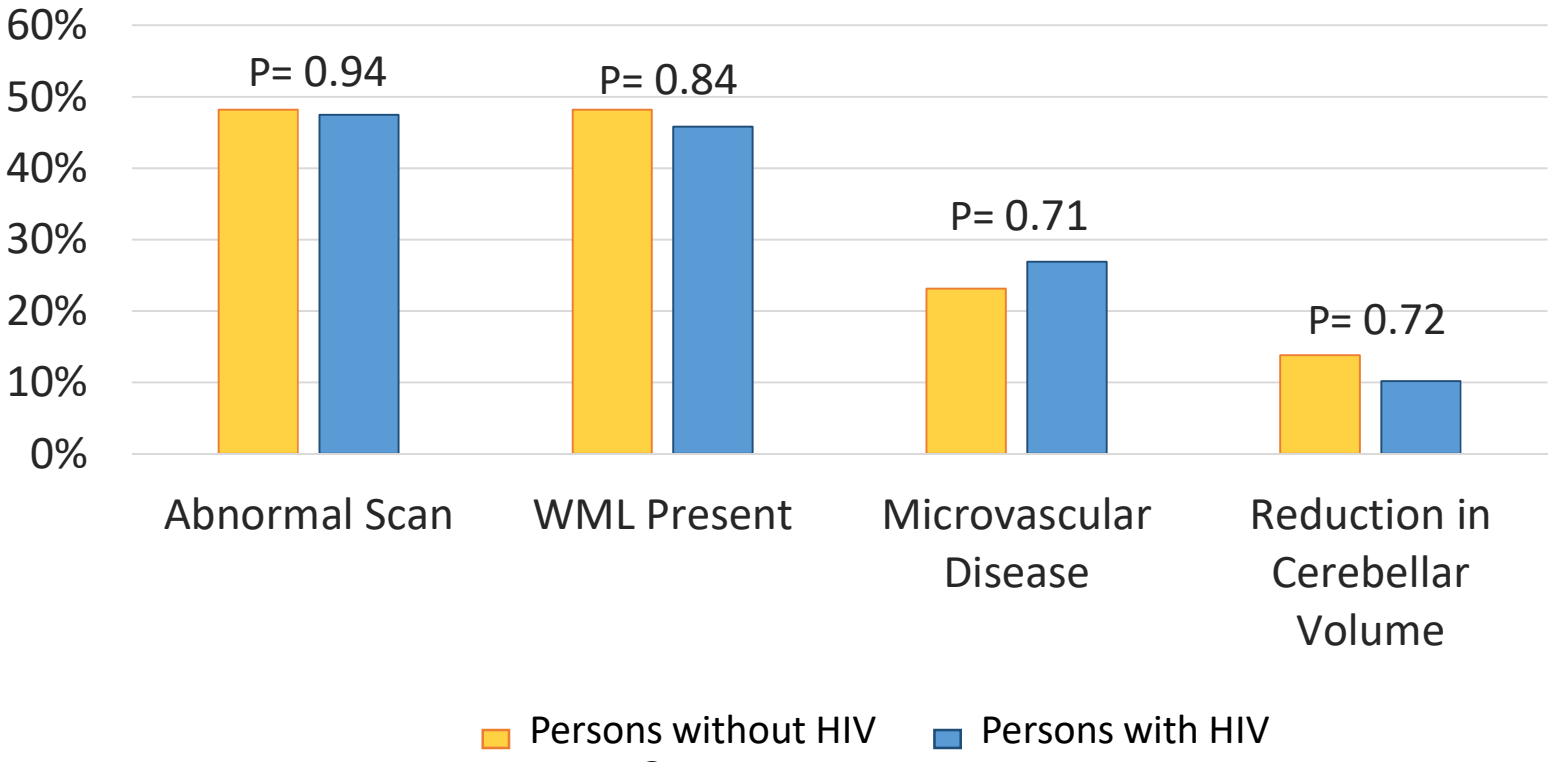
PMCID: PMC8610525
PMID: 34840876

Alzheimer Dementia in People Living With HIV

Andrea Calcagno, MD,✉ Luigi Celani, MD, Mattia Trunfio, MD, Giancarlo Orofino, MD, Daniele Imperiale, MD, Cristiana Atzori, BSc, Vincenzo Arena, MD, Gabriella d'Ettorre, MD, PhD, Giovanni Guaraldi, MD, Magnus Gisslen, MD, PhD, and Giovanni Di Perri, MD, PhD



MRI findings by HIV status



AIDS. 2018 Sep 10;32(14):2077-2081

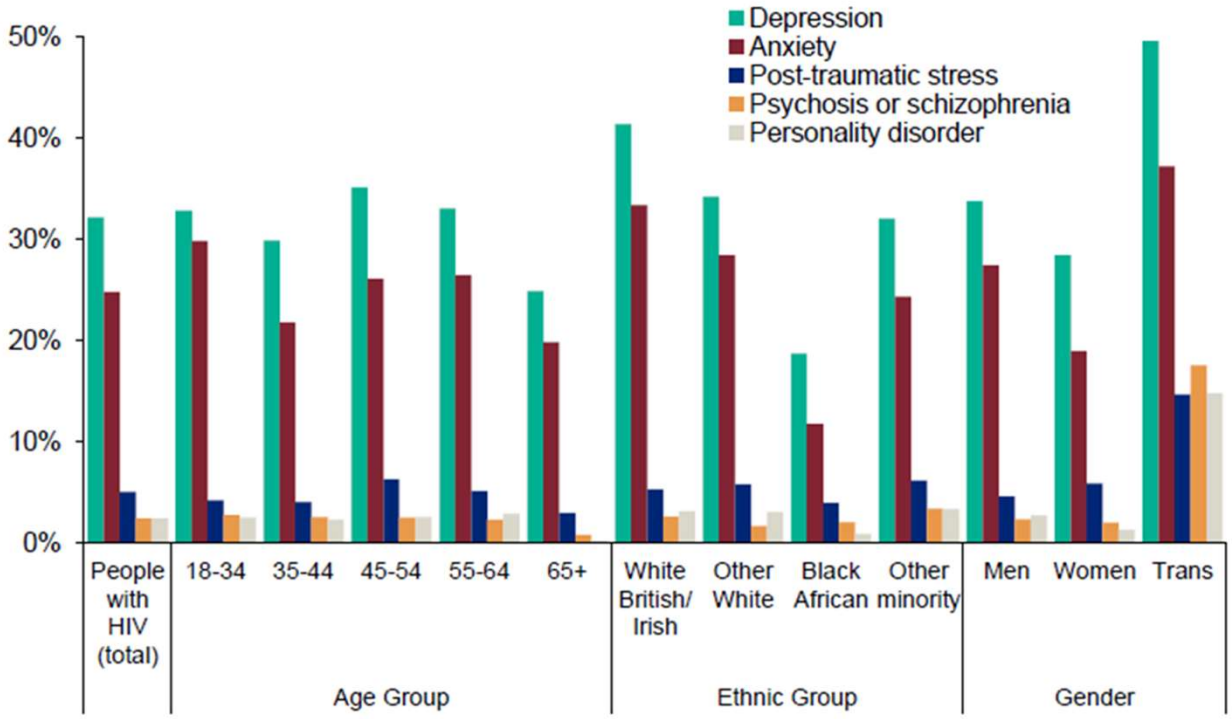
Clusters of comorbidities

CVDs	STDs	Mental health	Cancers	Metabolic	Chest/other infections
Angina, CABG, Peripheral vascular disease, MI, Heart failure, Hypertension, End-stage renal disease	Gonorrhoea, Syphilis, LGV, Chlamydia, Hepatitis C	Depression, Anxiety, Panic attacks	Haematological cancer, Skin cancer, Solid organ cancer	Dyslipidaemia, Lipodystrophy, Hypertension	Pneumonia, Dizziness, Vertigo, CMV, Asthma, Bronchitis, COPD, Chest infection

AIDS. 2019 Oct 1;33(12):1871-1880.

Mental health

Self-reported prevalence of mental health conditions diagnosed in 4,422 people with HIV by age, ethnicity and gender



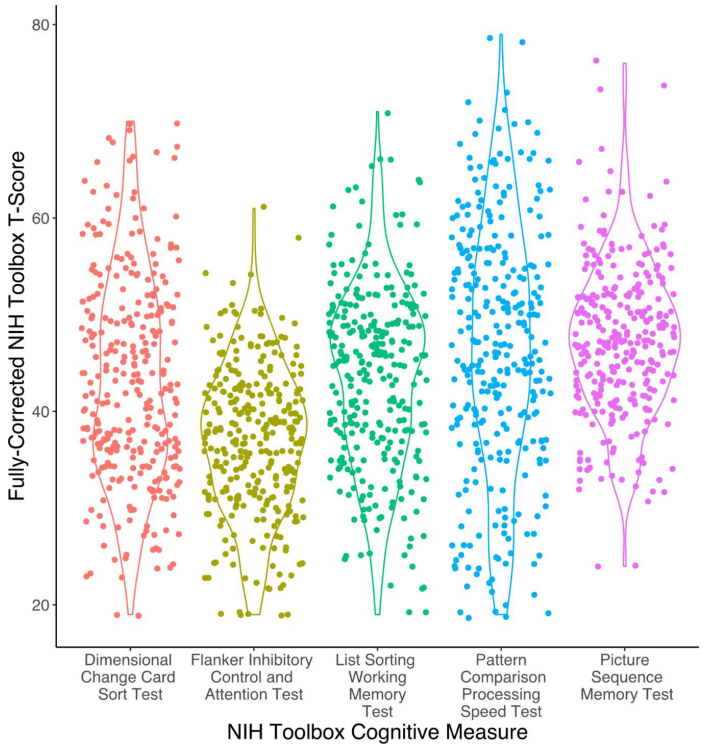
[Positive Voices 2022: survey report - GOV.UK]

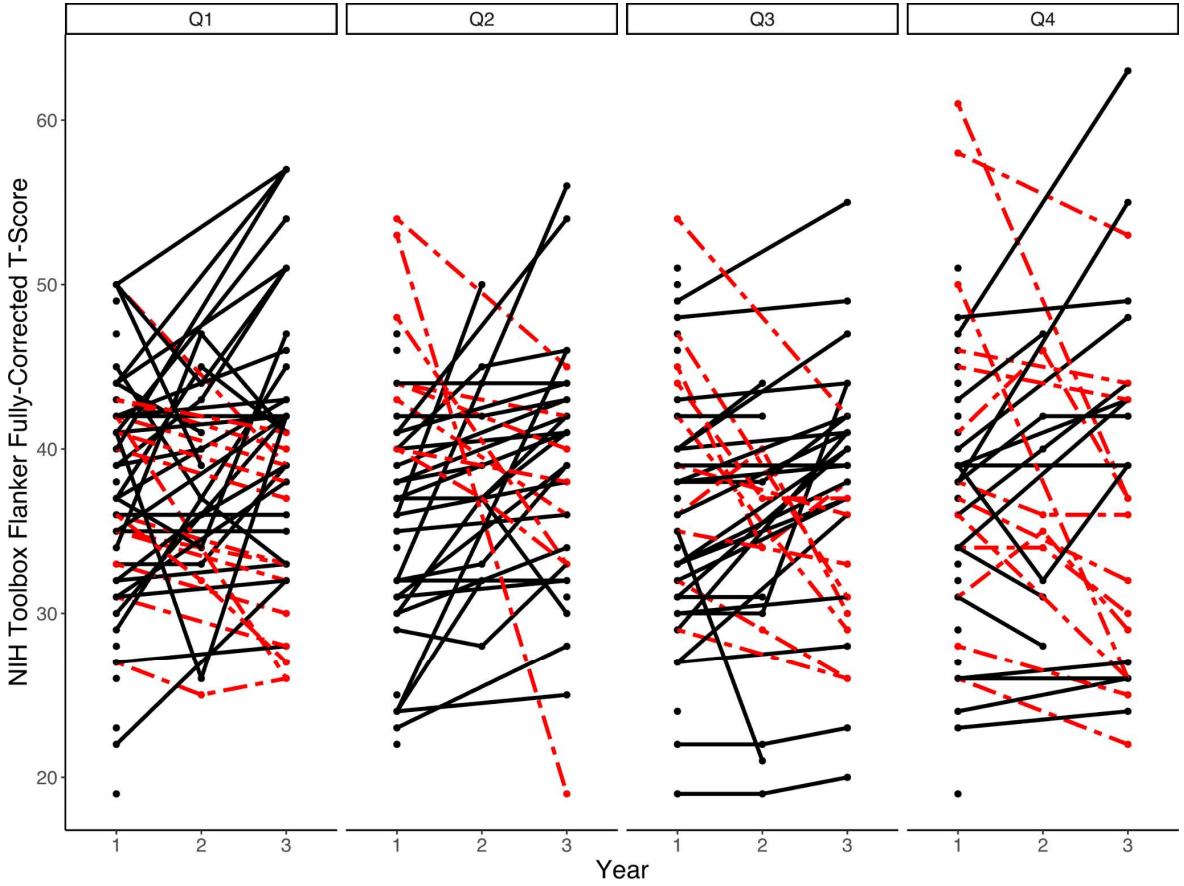
Home > AIDS and Behavior > Article

HIV Stigma is Associated with Two-Year Decline in Cognitive Performance Among People with HIV

Original Paper | Published: 14 October 2024
Volume 29, pages 90–100, (2025) Cite this article

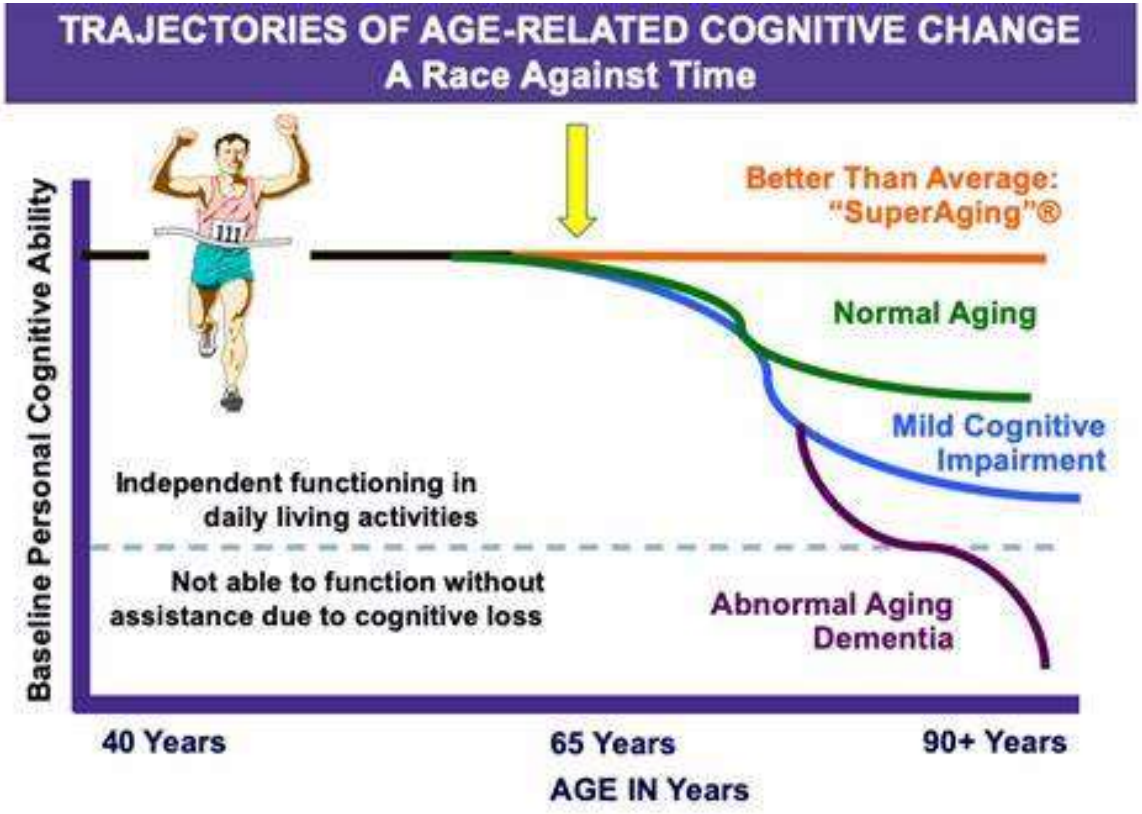
Download PDF





AIDS Behav 2025 Jan;29(1):90-100

Other considerations

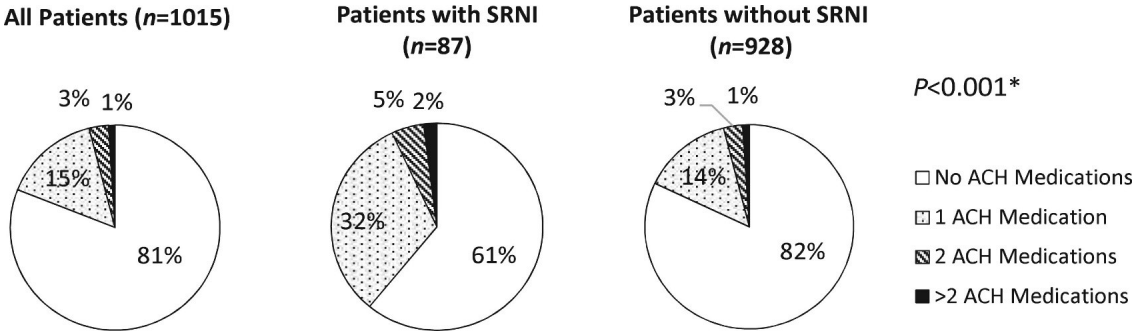


Anticholinergics

Anticholinergic medication use in elderly people living with HIV and self-reported neurocognitive impairment: a prospective cohort study

Bernadette Jakeman, Alexandra Scherrer, Manuel Battegay, Huldrych F. Gunthard, Anna Hachfeld, Alexandra Calmy, Patrick Schmid, Enos Bernasconi, Matthias Cavassini, Catia Marzolini ✉ on behalf of the Swiss HIV Cohort Study Author Notes

Journal of Antimicrobial Chemotherapy, Volume 77, Issue 2, February 2022, Pages 492–499, https://doi.org/10.1093/jac/dkab386



HIV MEDICINE BHIVA

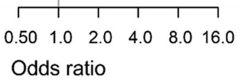
ORIGINAL ARTICLE

Anticholinergic medications associated with falls and frailty in people with HIV

Jessica Doctor ✉, Alan Winston, Jaime H. Vera, Frank A. Post, Marta Boffito, Patrick W. G. Mallon, Jane Anderson, Christina Prechtl, Ian Williams, Margaret Johnson, Emmanouil Bagkeris, Memory Sachikonye, Caroline A. Sabin, for the POPPY Study ... See fewer authors

First published: 29 August 2023 | https://doi.org/10.1111/hiv.13532 | Citations: 2

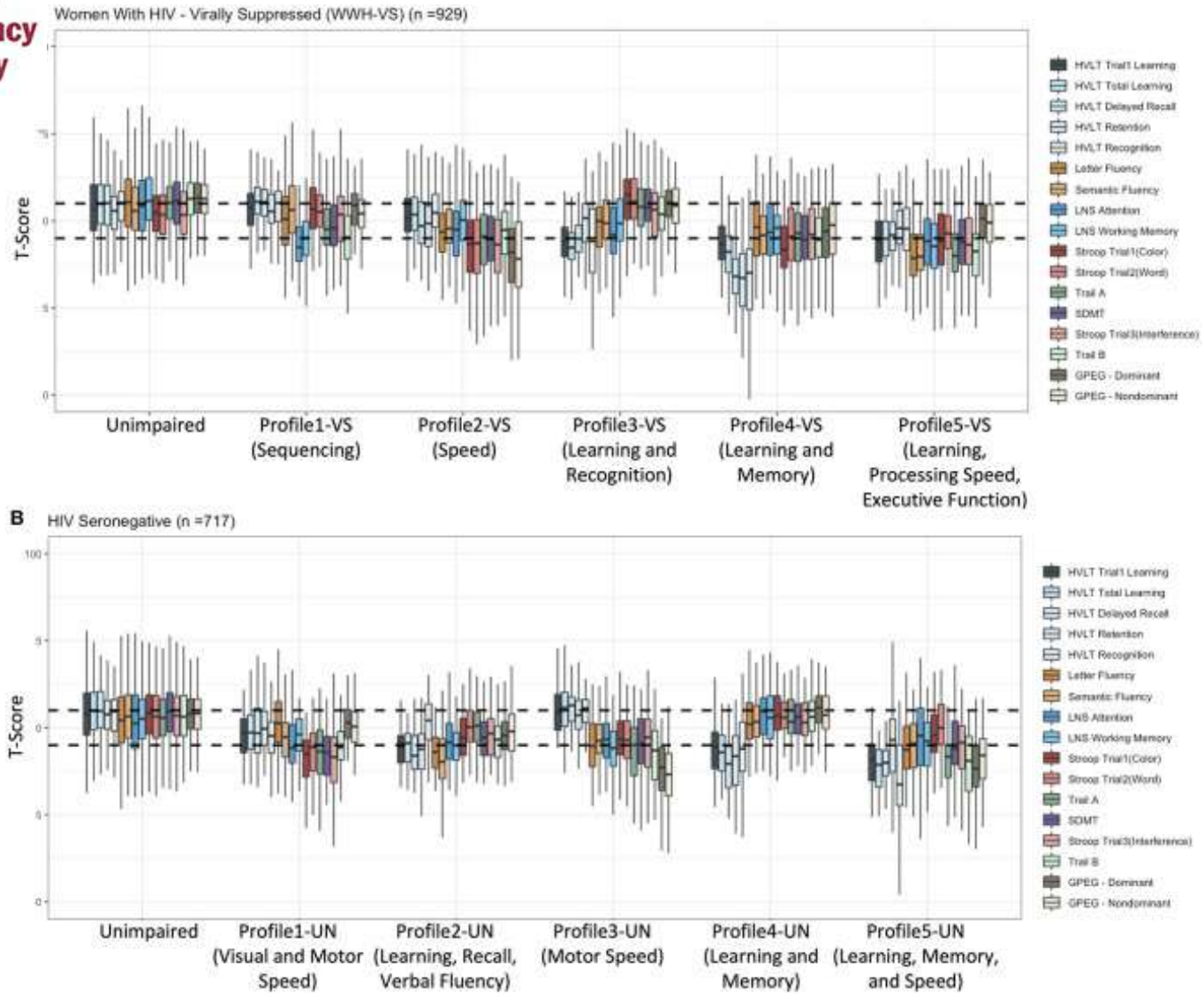
Outcome	Number of ACMs	Adjustment	OR (95% CI)	p-value
Falls	Any	Unadjusted	3.33 (1.88 – 5.9)	<0.001
		Level 1	2.47 (1.34 – 4.56)	0.004
		Level 2	1.93 (0.93 – 3.97)	0.076
	1	Unadjusted	2.09 (1.03 – 4.23)	0.04
		Level 1	1.66 (0.79 – 3.49)	0.177
		Level 2	1.43 (0.63 – 3.25)	0.389
	2 or more	Unadjusted	6.83 (3.31 – 14.11)	<0.001
		Level 1	4.53 (2.06 – 9.98)	<0.001
		Level 2	3.58 (1.37 – 9.38)	0.009
Frailty	Any	Unadjusted	2.29 (1.48 – 3.55)	<0.001
		Level 1	1.8 (1.12 – 2.92)	0.016
		Level 2	1.66 (0.94 – 2.95)	0.081
	1	Unadjusted	1.93 (1.16 – 3.2)	0.011
		Level 1	1.62 (0.93 – 2.82)	0.087
		Level 2	1.52 (0.82 – 2.84)	0.186
	2 or more	Unadjusted	3.33 (1.71 – 6.47)	<0.001
		Level 1	2.26 (1.09 – 4.70)	0.028
		Level 2	2.12 (0.89 – 5.02)	0.089



MACS MULTICENTER AIDS COHORT STUDY

WIHS Women's Interagency HIV Study

Cognitive profiles in women with and without HIV



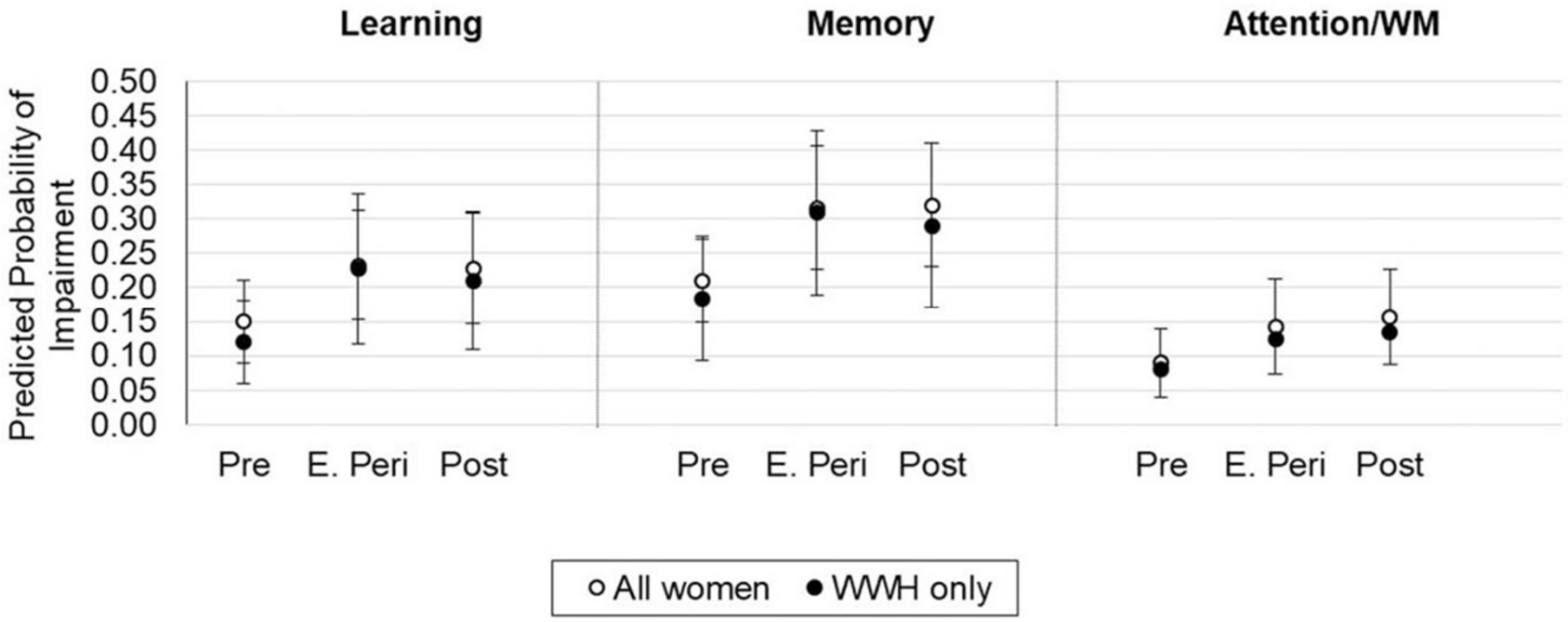
Front Neurol. 2021 Feb 11;12:604984

ORIGINAL STUDIES

Cognitive changes during the menopausal transition: a longitudinal study in women with and without HIV

Maki, Pauline M. PhD[1]; Springer, Gayle MLA[2]; Anastos, Kathryn MD[3]; Gustafson, Deborah R. PhD[4]; Weber, Kathleen MS[5]; Vance, David PhD[6]; Dykxhoorn, Derek PhD[7]; Milam, Joel PhD[8]; Adimora, Adaora A. MD[9]; Kassaye, Seble G. MD[10]; Waldrop, Drenna PhD[11]; Rubin, Leah. H. PhD[2,12]

Menopause

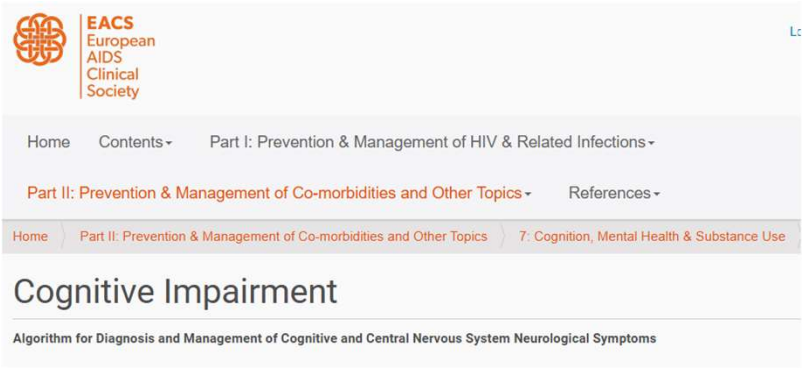


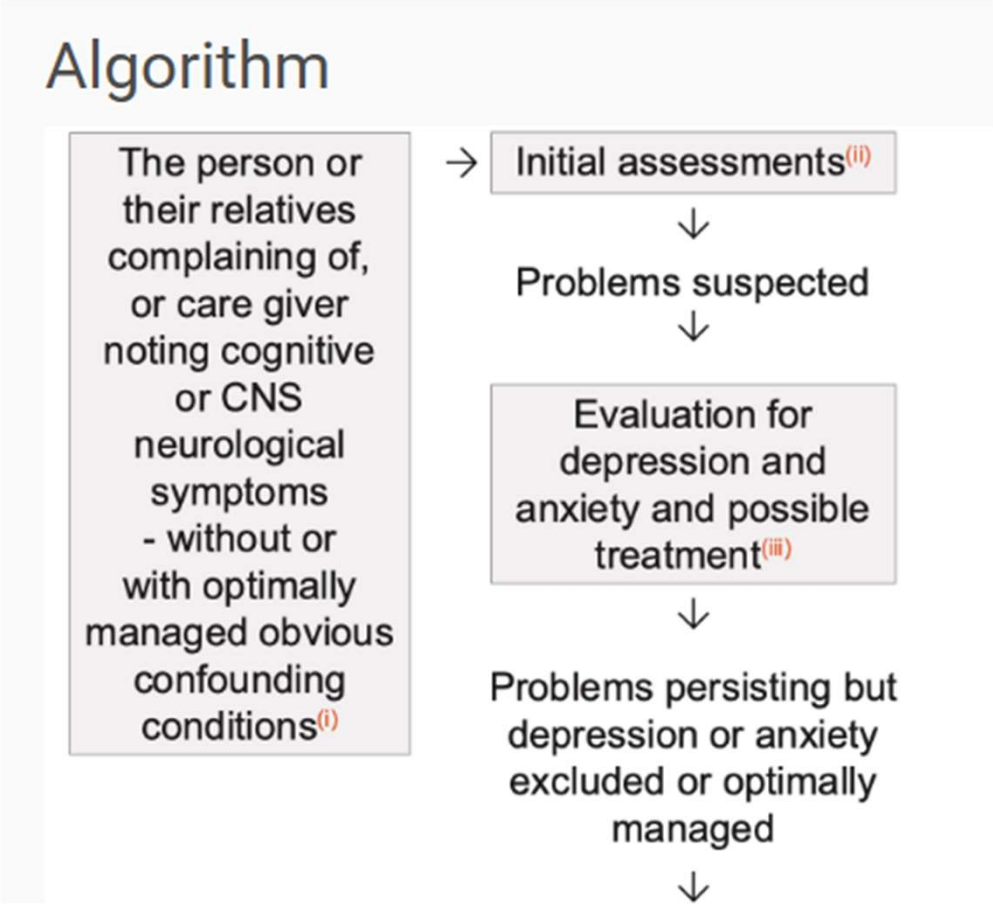
Menopause 2021 Jan 11;28(4):360-368

4

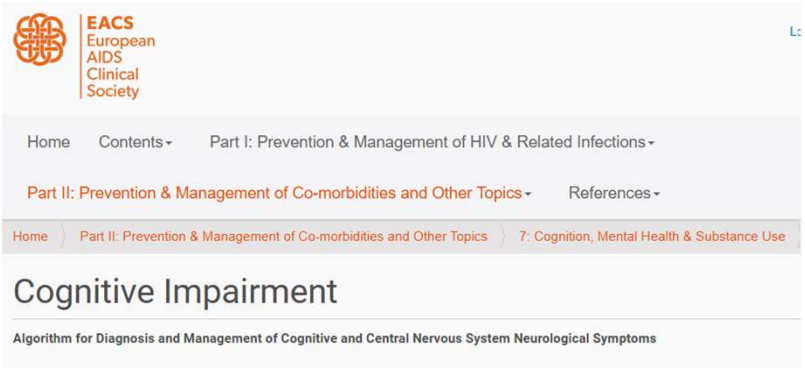
Management considerations

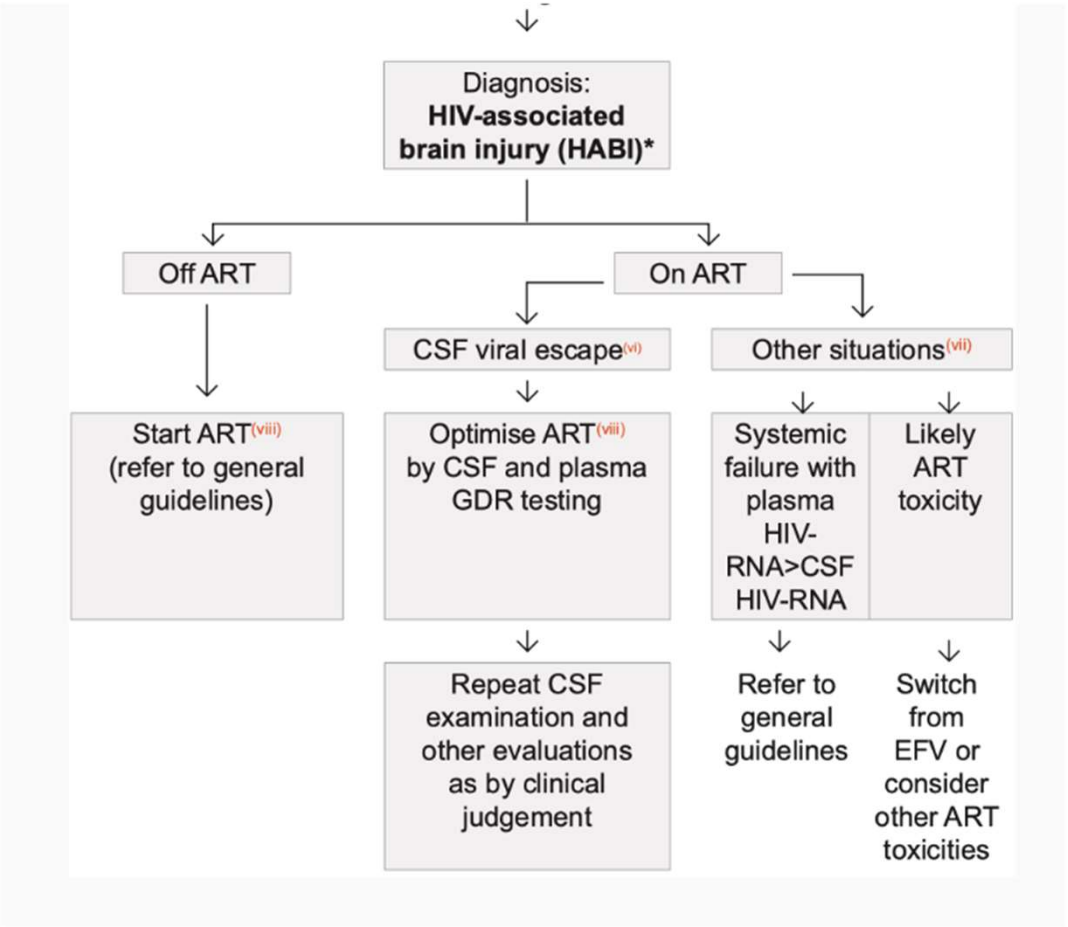
EACS guidelines





EACS guidelines





Summary

1	**Defining brain health in persons with HIV** • Recently HABI definition has been proposed
2	**Some HIV considerations** • Early initiation of ART may mitigate long term effects on cognitive health • Don’t forget to look for CSF HIV RNA escape
3	**Some non-HIV considerations** • Impact on comorbidities and concomitant medication • Social determinants of health, stigma, mental health have significant impact
4	**Management** • Screening for contributing factors is paramount • Recognising drivers and their management is paramount

HIV CNS UK·MEETING

https://hivcns.co.uk/

HIV neuro psychiatry

https://neuropsychiatry-hiv.com/

NINTH INTERNATIONAL MEETING NeuroHIV

https://neurohiv.com/