Healthy Aging: Optimizing Opportunities to Enhance Wellbeing and Quality of Life

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AMSTERDAM

FAST-TRACK CITIES 2023

September 25-27, 2023 | RAI Amsterdam Convention Center

City of Amsterdam

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IAPAC
INTERNATIONAL ASSOCIATION OF PROVIDERS OF AIDS CARE

FAST-TRACK CITIES INSTITUTE

Cols

- Travel grants
- Speaker
- Advisor
- Research grants

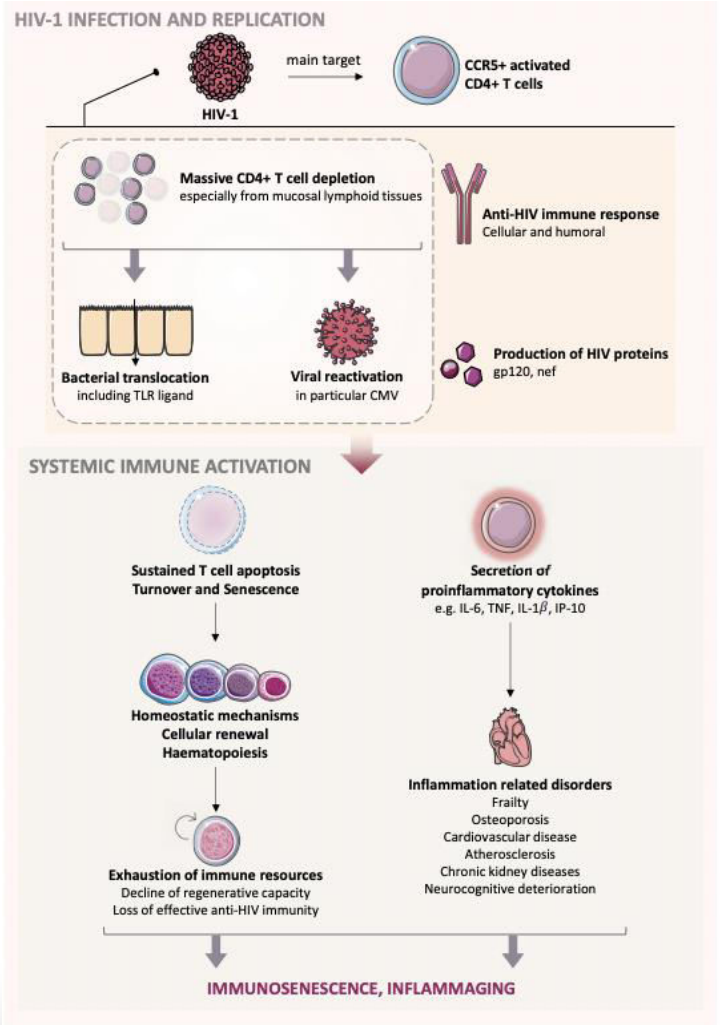
Janssen, Roche, ViiV, Bristol-Myers Squibb, Merck Sharp & Dohme, Gilead, Mylan, Cipla, Novavax, Valneva, GSK, Pfizer, AZ, ATEA

Outline

- Ageing with HIV is common
- Literature rich of data
- Knowledge on diagnosis and management of comorbidities, frailty, etc has become key
- Models of care optimisation and collaboration with primary care
- My experience at CWHFT, London, UK

HIV pathogenesis: a model of accelerated immunosenescence

- Increased immune activation and long-term chronic inflammation major players in aging process in general
- These processes are more prevalent with HIV (even if controlled)
- People with HIV more prone to prematurely develop age-related conditions



Chauvin & Sauce, Clinical Science, 2022;136:61–80

AANCC, age-associated non-communicable co-morbidities

Co-morbidities are prevalent among ageing people living with HIV

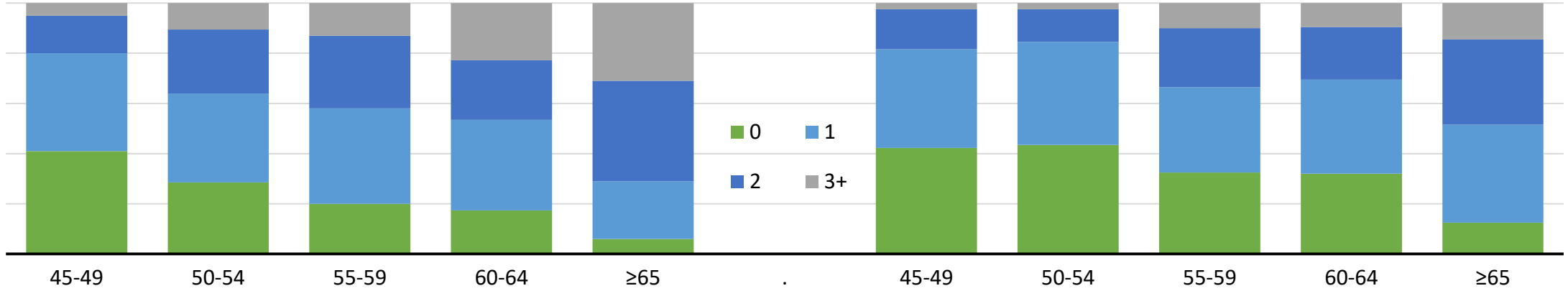
AANCC incidence stratified by age in the AGE$_h$IV Cohort Study, 2010–2012

HIV-infected (N=540)

Mean AANCC/person = 1.3 (SD 1.14)

HIV-uninfected controls (N=524)

Mean AANCC/person = 1.0 (SD 0.96)



Age (years)	45–49	50–54	55–59	60–64	≥65		45–49	50–54	55–59	60–64	≥65
Mean number of AANCC	0.83	1.18	1.34	1.52	1.96		0.79	0.75	1.11	1.08	1.51
Number of participants	184	126	97	58	55		193	130	84	66	41

Schouten et al. Clin Infect Dis 2014:59:1787–97

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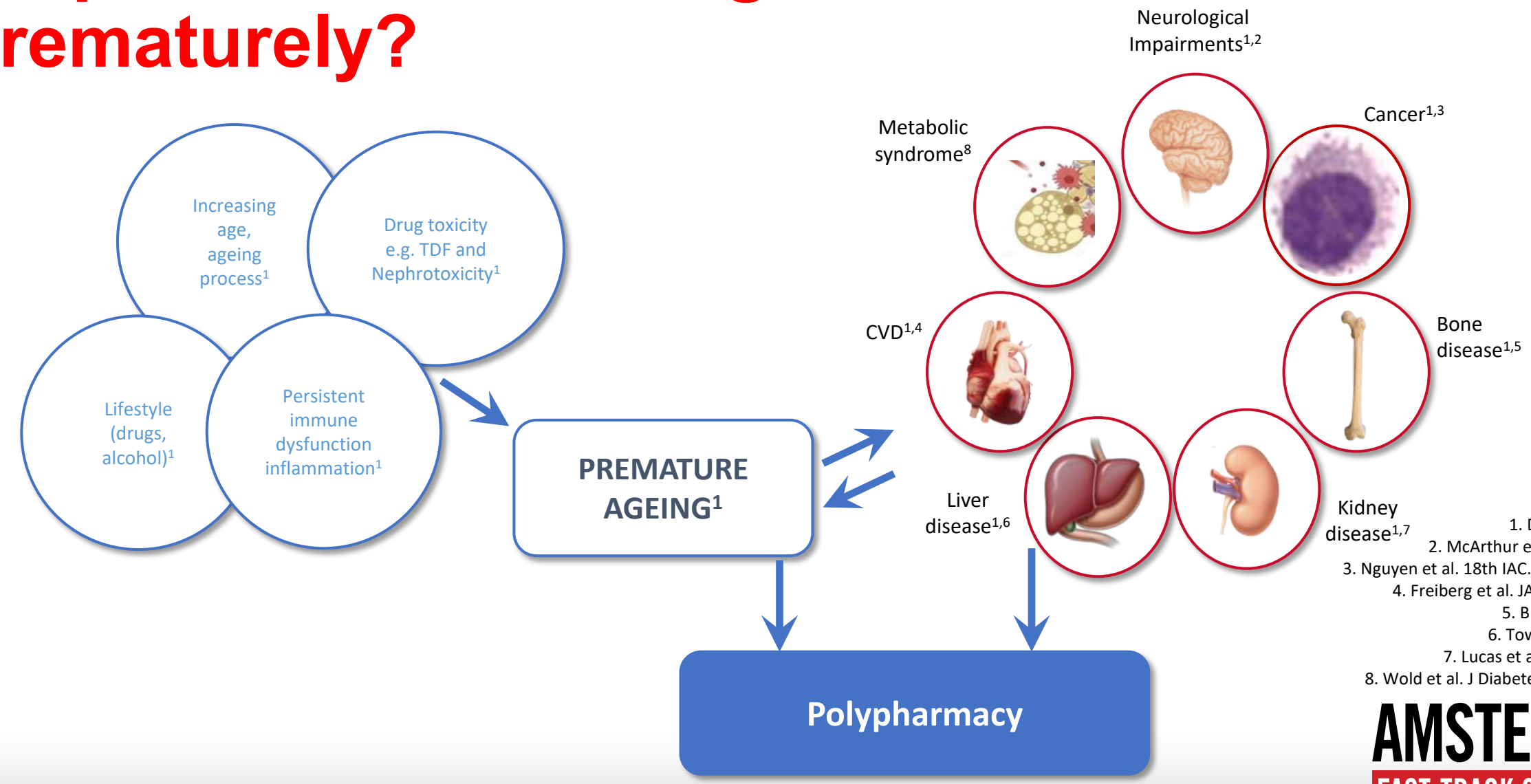
Do patients with HIV age prematurely?



1. Deeks et al. BMJ 2009
2. McArthur et al. Ann Neurol 2010
3. Nguyen et al. 18th IAC. Vienna, Austria 2010
4. Freiberg et al. JAMA Intern Med 2013
5. Brown et al. AIDS 2006
6. Towner et al. JAIDS 2012
7. Lucas et al. Clin Infect Dis 2014
8. Wold et al. J Diabetes Metab Disord 2020

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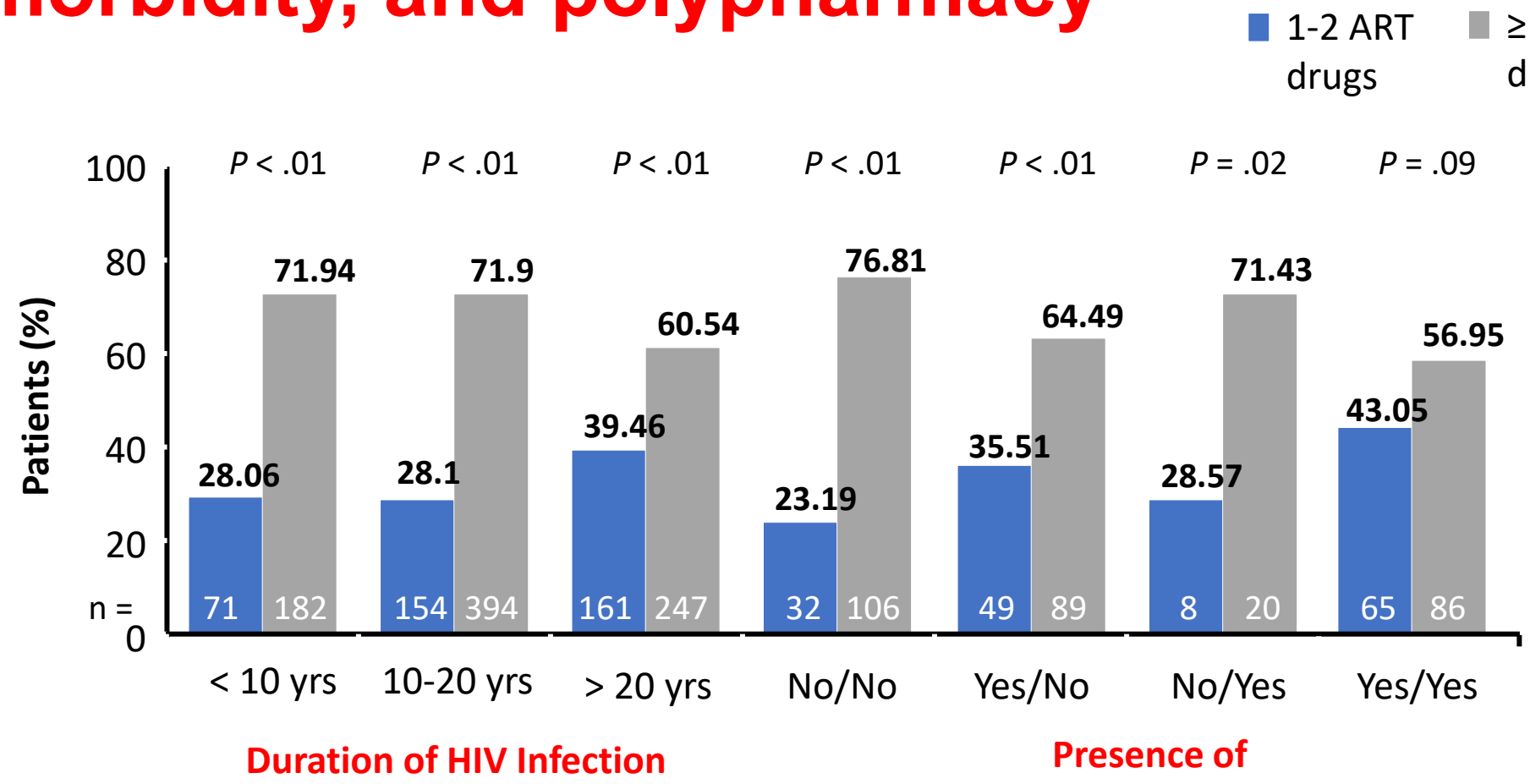
Polypharmacy

- Has been variously defined ≥ 5
- In research studies a commonly applied definition has been the concomitant use of five or more drugs
- Has been linked to heightened risk of occurrence of drug-related problems (toxicities and DDIs) and a detrimental health outcome

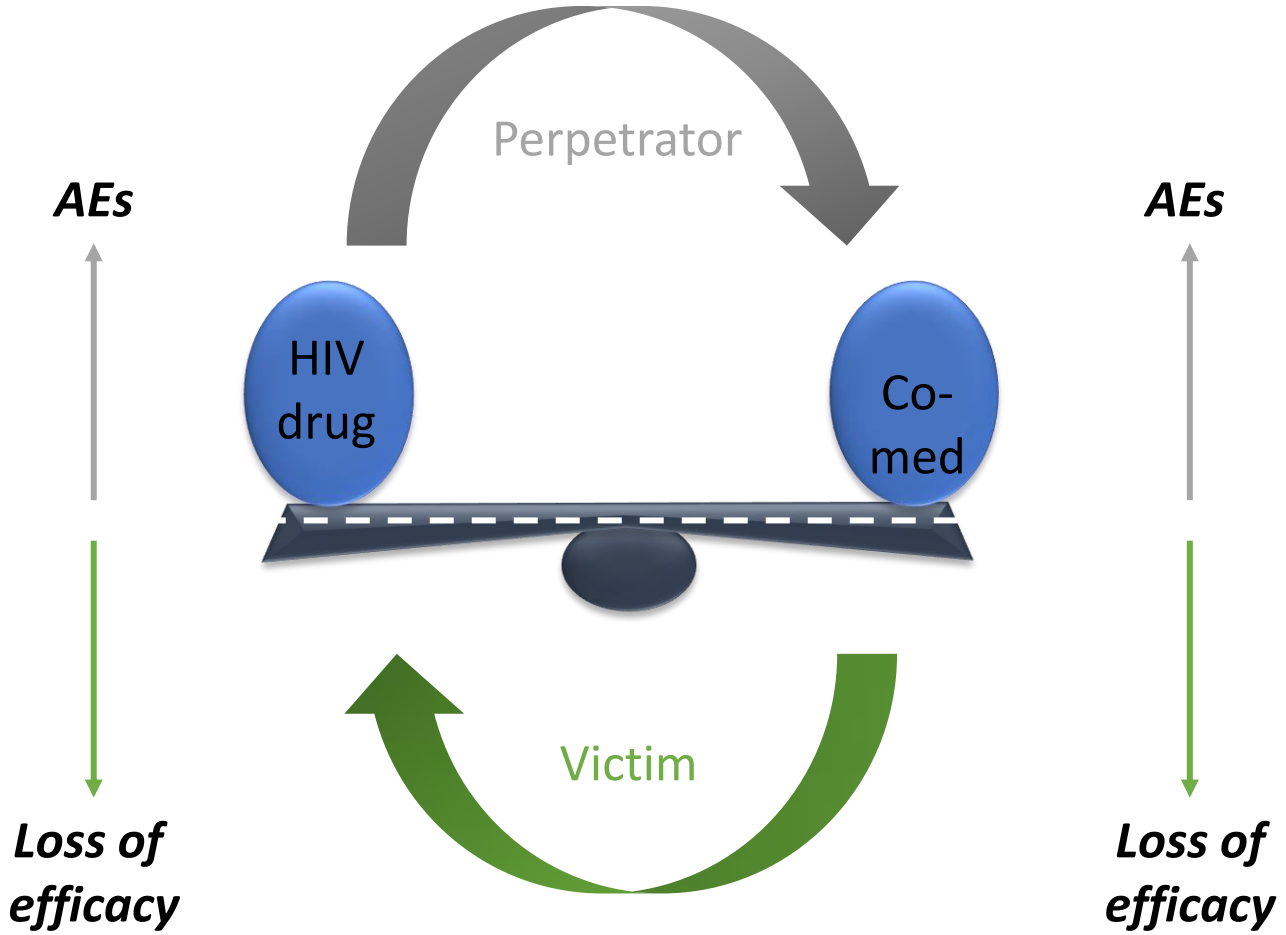
GEPPO: Duration of HIV Infection, multimorbidity, and polypharmacy



*3 or more noncommunicable diseases. †Chronic use of 5 or more medications.

Nozza. J Antimicrob Chemother. 2017;72:2879.

Drug-drug interactions



Graphic courtesy of Dr. David Back, Hughes, CMAJ, 2015;187:35

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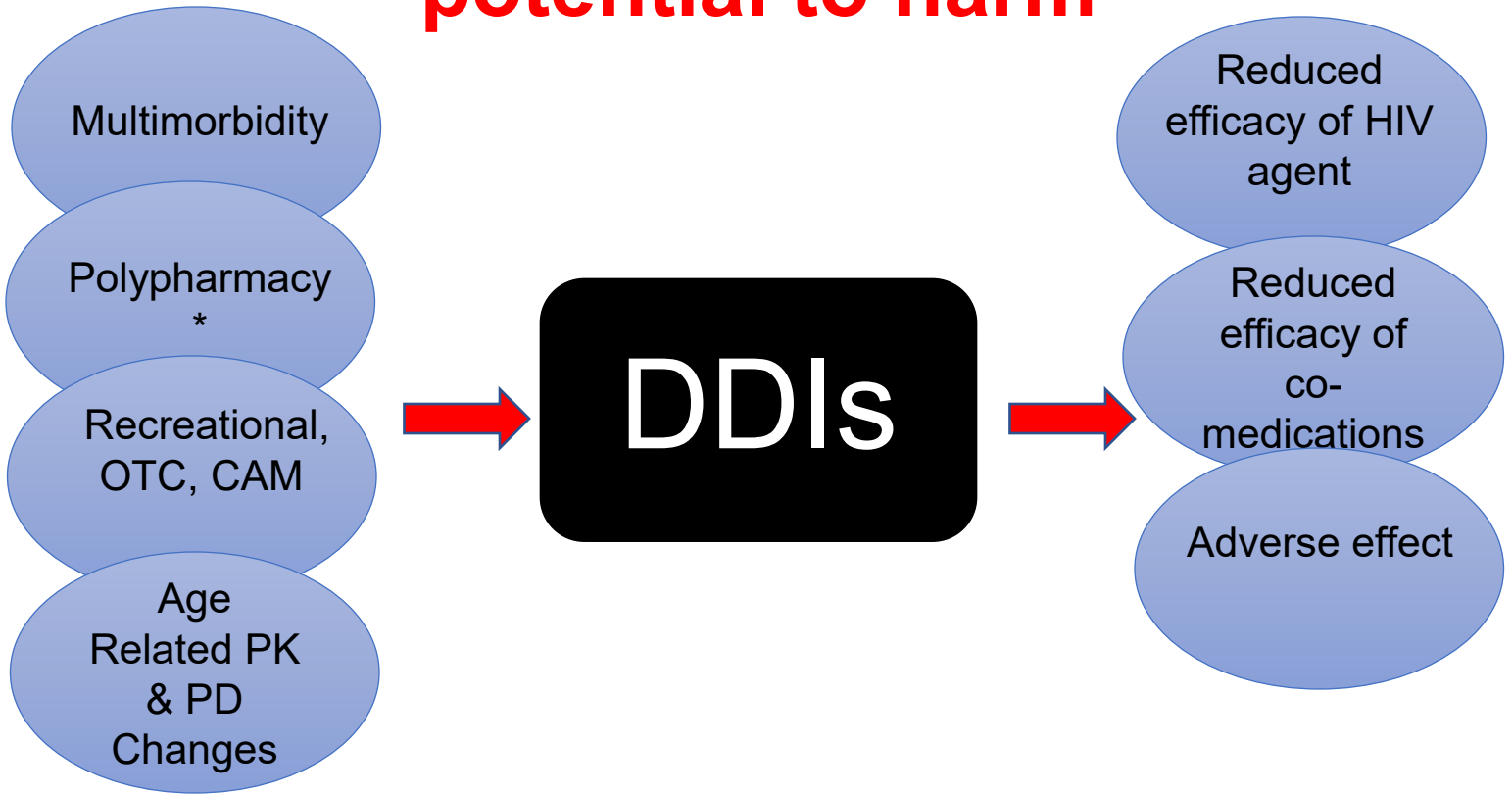
DDIs potential to harm



*Different Health Care Providers – *'Polydoctory'*

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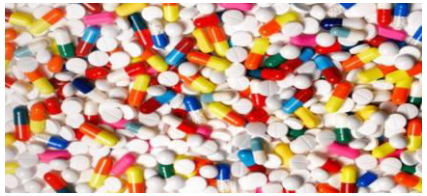
TESTING 1



- N of drugs
- Type of drugs
  - Prescribed
  - OTC
  - Herbals
  - Recreational
  - Alcohol
- Drug interactions

AIDS. 2019 Oct 10. doi: 10.1097/QAD.0000000000002403. [Epub ahead of print]

Polypharmacy and evaluation of anticholinergic risk in a cohort of elderly people living with HIV.

Mazzitelli M[1,2], Milinkovic A[2], Pereira B[2], Palmer J[3], Tong T[2], Asboe D[2], Boffito M[2,3].

Author information

1 "Magna Graecia University", Catanzaro, Italy.
2 Chelsea and Westminster Hospital NHS Foundation Trust, London, UK.
3 Imperial College London, London, UK.

Abstract

: As a consequence of ageing, the number of prescribed medications for people living with HIV (PLWH) is increasing. Concomitant use of different drugs and their potential interactions may increase anticholinergic exposure and escalate the risk for side effects. We conducted an analysis in our cohort of PLWH over 50 years of age to evaluate the overall anticholinergic risk, as it is useful to identify, prevent, and manage increased side effect risks.

DDI and anticholinergic risk

- Increase in anticholinergic exposure > risk for side effects
- Overall anticholinergic risk to identify, prevent, and manage increased side effect risks

Level of anticholinergic risk	Anticholinergic burden scale *n* (%)	Anticholinergic risk score *n* (%)
0 (no risk)	697 (88.2)	711 (90)
1–2 (intermediate)	68 (8.6)	57 (7.2)
>0=3 (high)	25 (3.2)	22 (2.8)

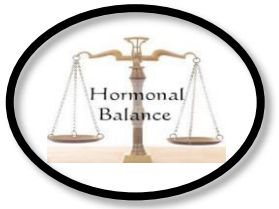
Mazzitelli et al. AIDS 2019, 33:2439–2441

Frailty and the Effects of Polypharmacy in Older People Living with HIV

- Our findings, focusing mainly on PLWH over the age of 80 years, demonstrate that this population has significant comorbidities and is at risk of polypharmacy and DDIs.
- Modernization of ARVs (e.g., booster removal, pill burden reduction) and pharmacist interventions may help reduce adverse events, improve adherence, and modify ACB.
- Integrating geriatric care into HIV clinical practice presents an ideal opportunity to optimize resources to address the needs of OPLWH.

Varadarajan M, et al, PK workshop Rome 2023

TESTING 2



Endocrinology MEN

- Hypogonadism

CVD

Functional decline (frailty)

Osteoporosis

etc…

ED – Specialist clinic

Menopausal Clinic WOMEN

- Menopause

Depression

Osteoporosis

etc…

Appropriate Referral TRANS/NON BINARY/OTHER

- Symptomatology
- Hormone levels

Drug interactions

etc…

Testosterone Total and FREE

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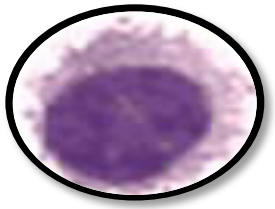


TESTING 3

- PSA

Prostate-specific antigen, protein produced by cells of the prostate gland
Blood test
Pro and cons

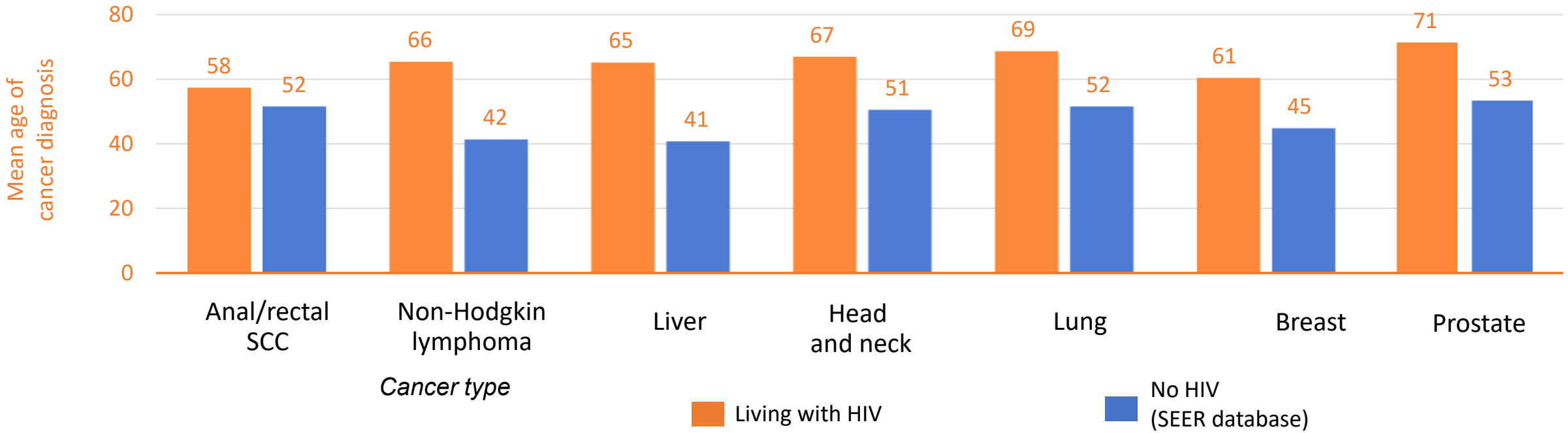
- Anal smear (when possible)

- Ensure mammography is done/planned

SCC, squamous cell carcinoma, SEER, Surveillance, Epidemiology and End Results

People with HIV are diagnosed with cancer at an earlier age than uninfected adults

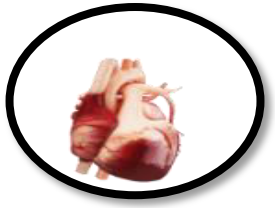
Average age at cancer diagnosis for 516 HIV-positive individuals and uninfected individuals (SEER database), by cancer type, 2000–2007[2]



p=0.0001 for all comparisons

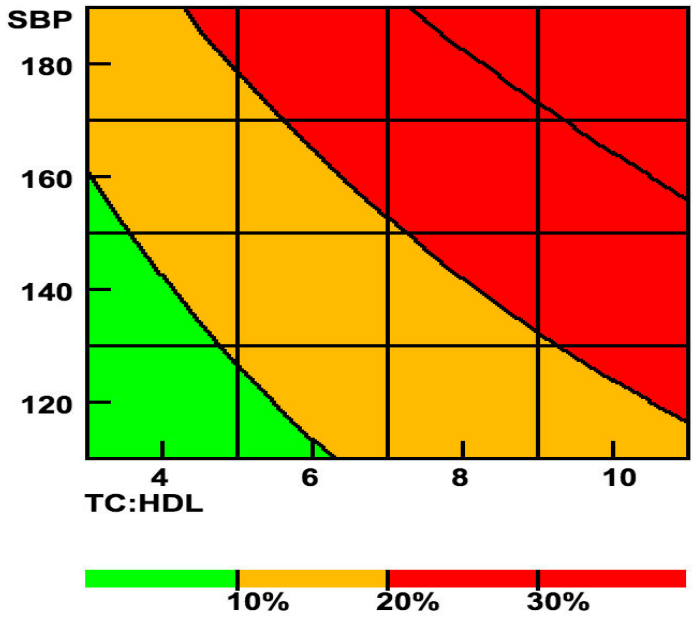
1. National Cancer Institute Fact Sheet. HIV Infection and Cancer Risk. National Institutes of Health. 2013,
2. Nguyen et al. 18th IAC, 2010. Vienna, Austria. Abstract WEAB0105

TESTING 4



- Cardiovascular risk (CVR) calculation
- Coronary artery calcification score (CACS)

CVR



Calculate risk of CVD (BNF)
Time period 10 years

Age 60 years
Male

Smoker

Systolic Blood Pressure mmHg
Cholesterol
Total : HDL mmol/L
Use pre-treatment BP/cholesterol values

About you

Age (25-84): 64
Sex: Male Female
Ethnicity: White or not stated

UK postcode: leave blank if unknown

Postcode:

Clinical information

Smoking status: non-smoker
Diabetes status: none
Angina or heart attack in a 1st degree relative < 60?
Chronic kidney disease (stage 4 or 5)?
Atrial fibrillation?
On blood pressure treatment?
Rheumatoid arthritis?

Leave blank if unknown

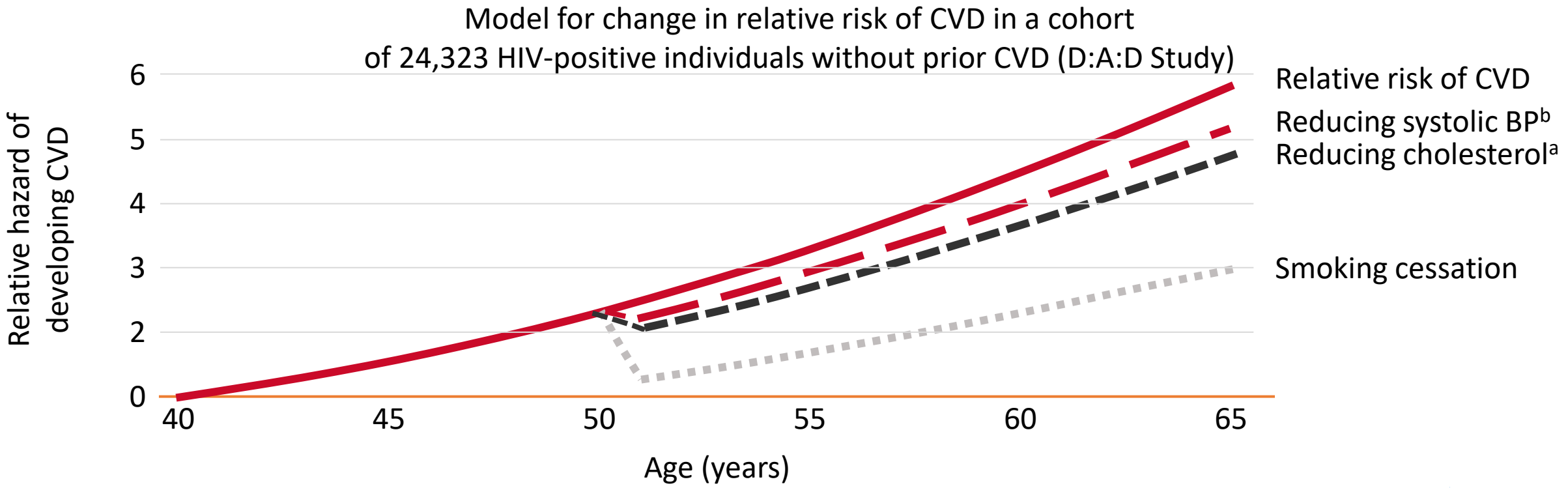
Cholesterol/HDL ratio:
Systolic blood pressure (mmHg):

Body mass index

Height (cm):
Weight (kg):

Reducing traditional CVD risk factors can decrease risk of CVD in older people

Effective treatment of modifiable risk factors can significantly reduce an individual's CVD risk



[a]Reduced by 1 mmol/L; [b]Reduced by 10 mmHg
BP, blood pressure; CVD, cardiovascular disease

Petoumenos et al. HIV Med 2014;15:595–603

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Reducing traditional CVD risk factors can decrease risk of CVD in older people

Effective treatment of modifiable risk factors can significantly reduce an individual's CVD risk

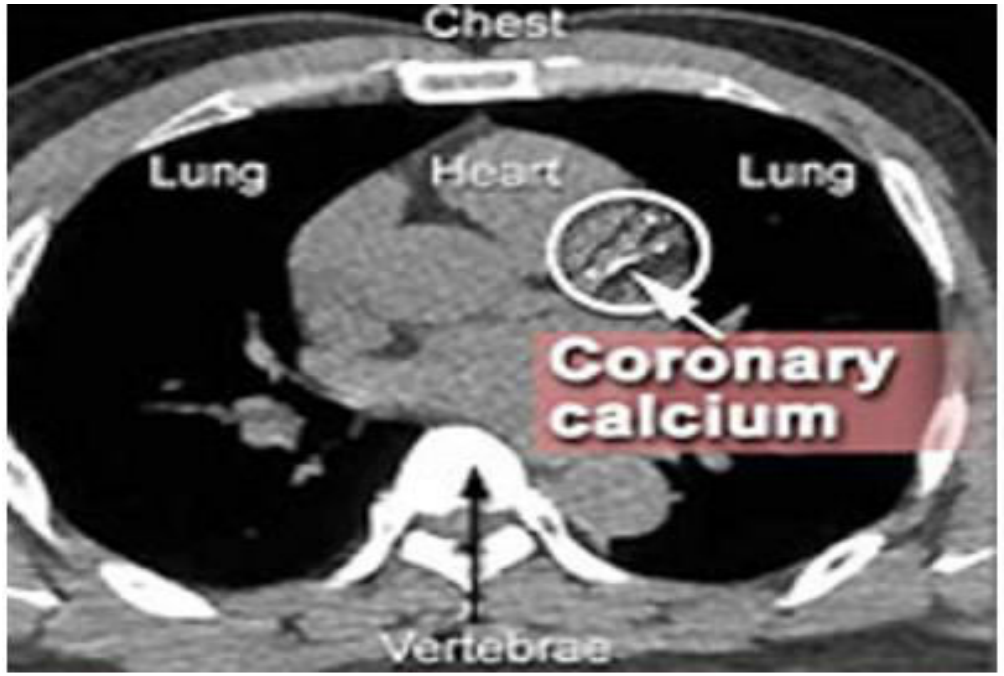
Lifestyle intervention: healthy diet and exercise

Involvement of metabolic clinic, physiotherapist and dietician

[a]Reduced by 1 mmol/L; [b]Reduced by 10 mmHg
BP, blood pressure; CVD, cardiovascular disease

Petoumenos et al. HIV Med 2014;15:595–603

CACS



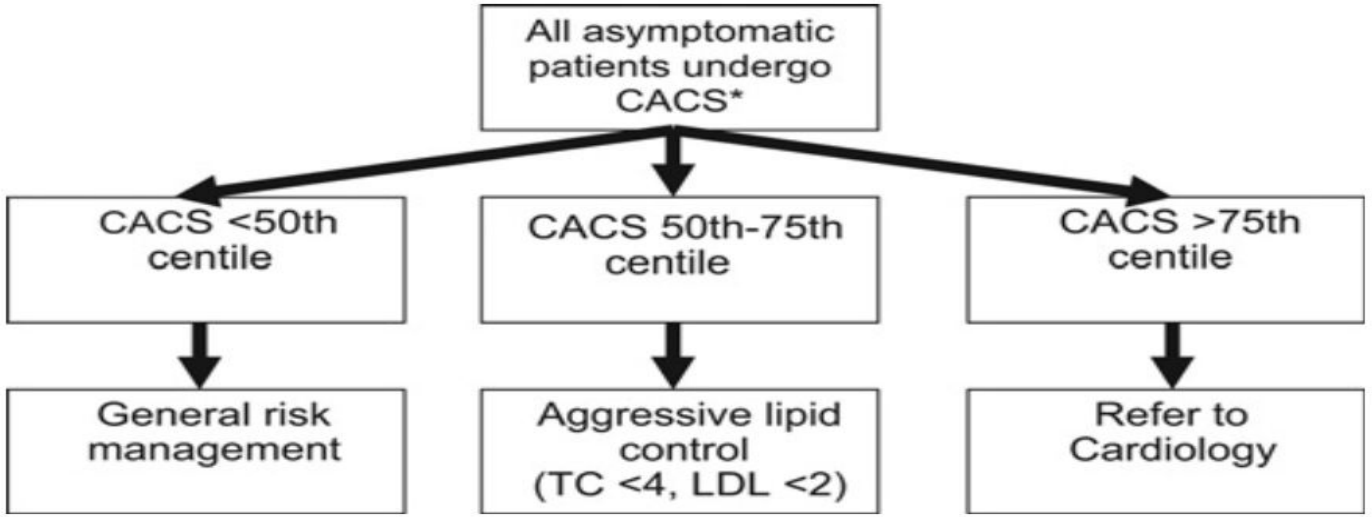


Figure 1 Coronary artery calcium score (CACS) flowchart. TC = total cholesterol in mmol/L; LDL = low-density lipoprotein-cholesterol in mmol/L

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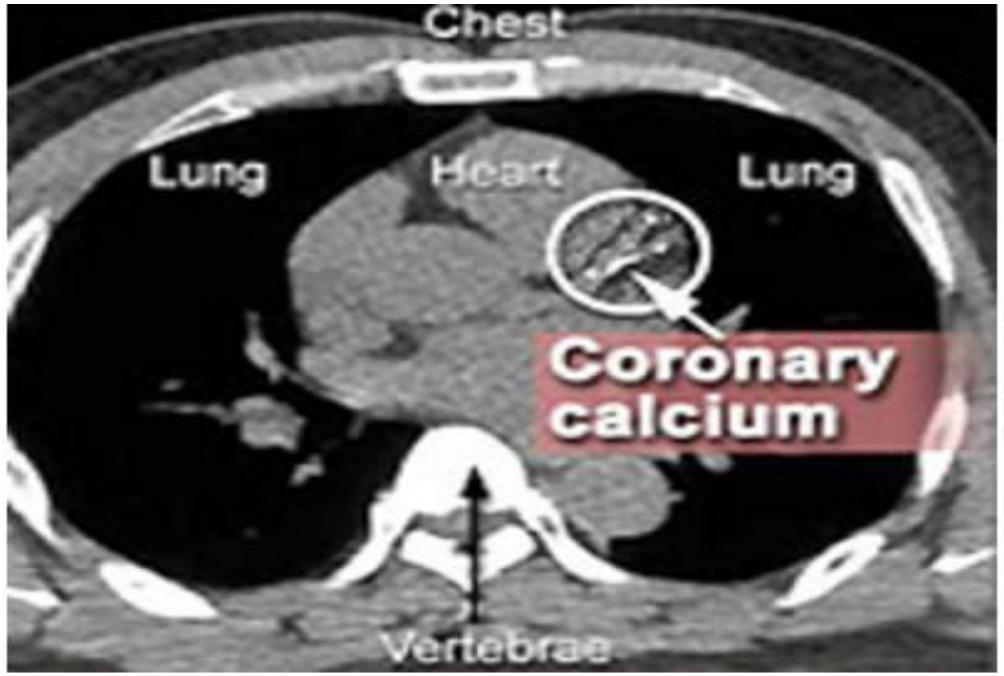
CACS



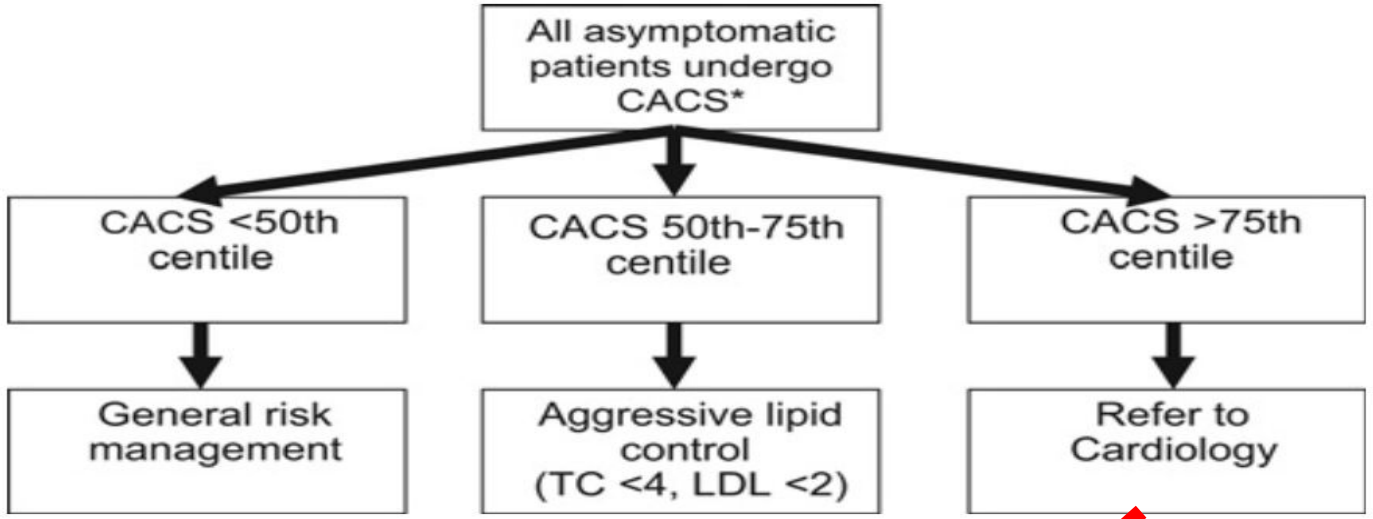


Figure 1 Coronary artery calcium score (CACS) flowchart. TC = total cholesterol in mmol/L; LDL = low-density lipoprotein-cholesterol in mmol/L

HIV/CARDIOLOGY CLINIC

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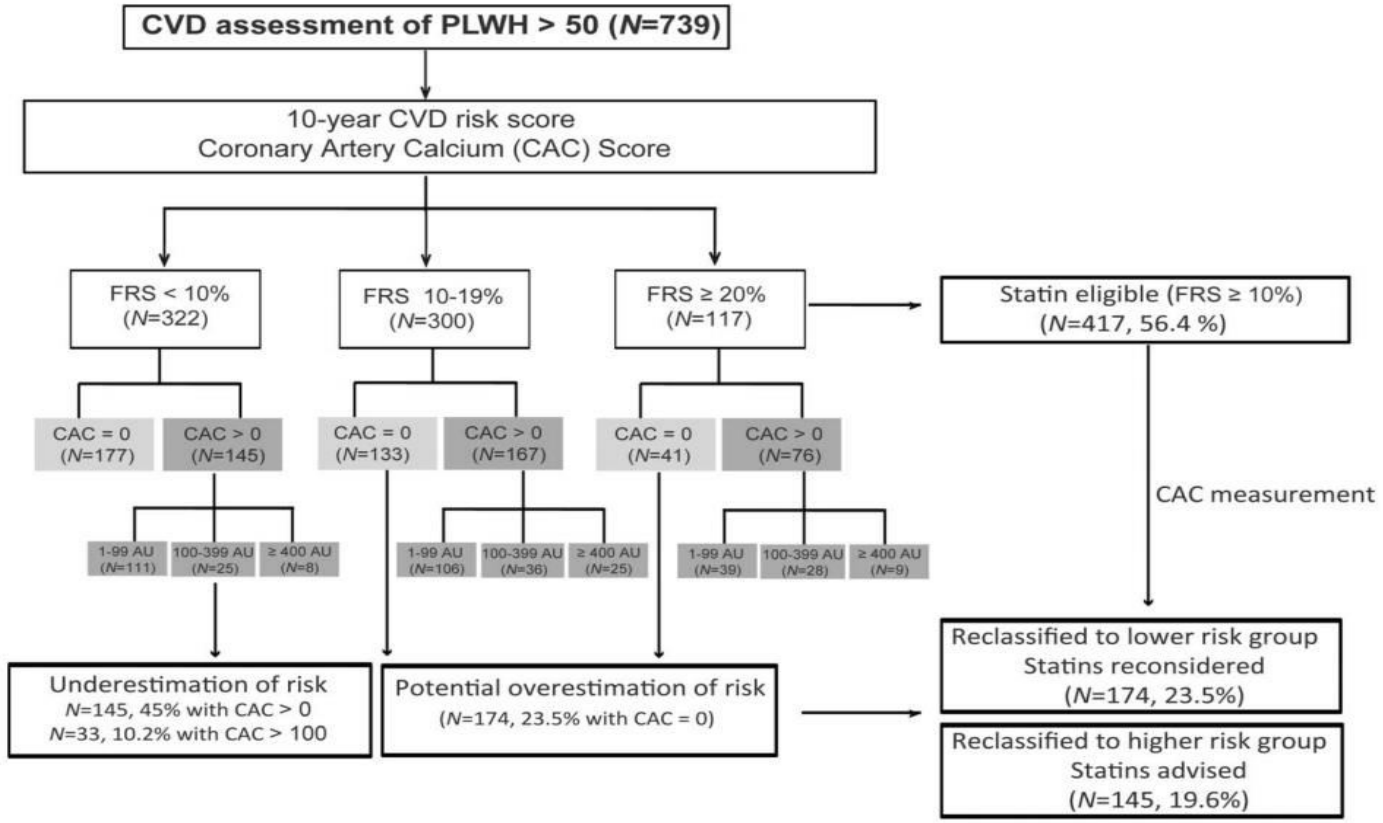
Risk assessment / PLWH selection for statin therapy

Conventional risk tools + CACS



Pereira et al. JAIDS 2020;85:98-105

The NEW ENGLAND JOURNAL of MEDICINE

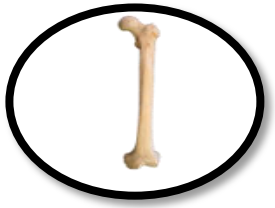
ESTABLISHED IN 1812 AUGUST 24, 2023 VOL. 389 NO. 8

Pitavastatin to Prevent Cardiovascular Disease in HIV Infection

Steven K. Grinspoon, M.D., Kathleen V. Fitch, M.S.N., Markella V. Zanni, M.D., Carl J. Fichtenbaum, M.D., Triin Umbleja, M.S., Judith A. Aberg, M.D., Edgar T. Overton, M.D., Carlos D. Malvestutto, M.D., M.P.H., Gerald S. Bloomfield, M.D., M.P.H., Judith S. Currier, M.D., Esteban Martinez, M.D., Ph.D., Jhoanna C. Roa, M.D., Marissa R. Diggs, B.A., Evelynne S. Fulda, B.A., Kayla Paradis, M.B.A., Stephen D. Wiviott, M.D., Borek Foldyna, M.D., Sara E. Looby, Ph.D., Patrice Desvigne-Nickens, M.D., Beverly Alston-Smith, M.D., Jorge Leon-Cruz, M.S., Sara McCallum, M.P.H., Udo Hoffmann, M.D., M.P.H., Michael T. Lu, M.D., M.P.H., Heather J. Ribaudo, Ph.D., and Pamela S. Douglas, M.D., for the REPRIEVE Investigators*

- Participants with HIV who received pitavastatin had lower risk of a major adverse CV event than those who received placebo over a median follow-up of 5.1 years.

TESTING 5

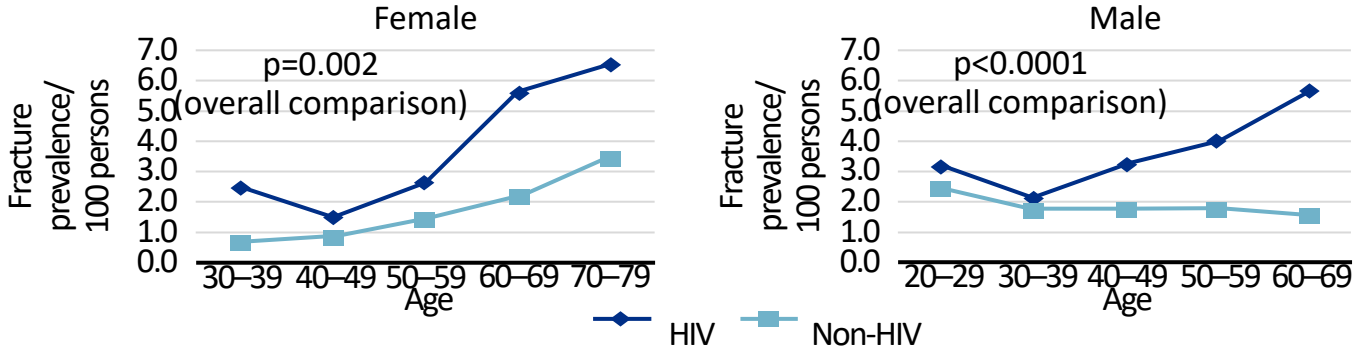


- Bone mineral density (BMD) scan
- FRAX score
- Vitamin D

People living with HIV are at increased risk of low BMD and fractures

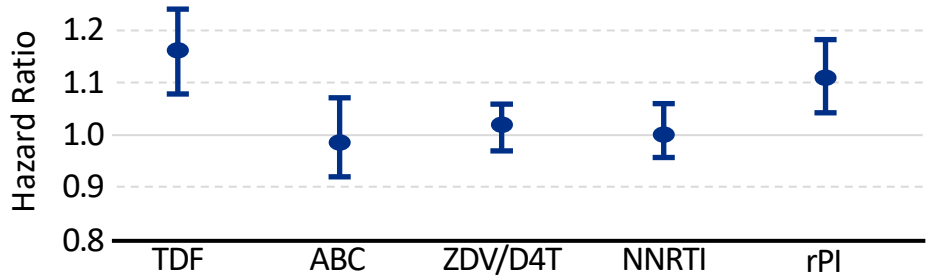
Increased BMD issue risk from HIV infection

Fracture prevalence PLWHIV and non-infected controls[3*]



Increased BMD issue risk from HIV treatment

Antiretroviral exposure and risk of osteoporotic fractures: 1996–2009[4]



*U.S. healthcare system data

- PLWHIV have lower bone mineral density (BMD) than the uninfected population[1]
- Prevalence of fractures of the spine, hip, and wrist, sites commonly associated with osteoporosis can be 60% higher in PLWHIV compared with the uninfected[3]
- ARVs can exacerbate low BMD issues
  - Initiation of therapy is associated with a 2–6% decrease in BMD over the first two years of treatment[2]

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EACS guidelines

Bone Disease: Screening and Diagnosis

Condition	Characteristics	Risk factors	Diagnostic tests
Osteopenia • Postmenopausal women and men aged ≥ 50 years with BMD T-score -1 to -2.5 **Osteoporosis** • Postmenopausal women and men aged ≥ 50 years with BMD T-score ≤ -2.5 • Premenopausal women and men aged < 50 years with BMD Z-score ≤ -2 and fragility fracture	• Reduced bone mass • Increased incidence of fractures in HIV-positive persons • Asymptomatic until fractures occur Common in HIV • Up to 60% prevalence of osteopenia • Up to 10-15% prevalence of osteoporosis • Aetiology multifactorial • Loss of BMD observed with antiretroviral initiation • Greater loss of BMD with initiation of certain ARVs(i)	Consider classic risk factors(ii) Consider DXA in any person with ≥ 1 of:(iii) 1. Postmenopausal women 2. Men ≥ 50 years 3. History of low impact fracture 4. High risk for falls(iv) 5. Clinical hypogonadism (symptomatic, see Sexual Dysfunction) 6. Oral glucocorticoid use (minimum 5 mg/qd prednisone equivalent for > 3 months) Preferably perform DXA in those with above risk factors prior to ART initiation. Assess effect of risk factors on fracture risk by including DXA results in the FRAX® score (www.shef.ac.uk/FRAX) • Only use if > 40 years • May underestimate risk in HIV-positive persons • Consider using HIV as a cause of secondary osteoporosis(v)	**DXA scan** **Rule out causes of secondary osteoporosis if BMD low**(vi) **Lateral spine X-rays** (lumbar and thoracic) if low spine BMD, osteoporosis on DXA, or significant height loss or kyphosis develops. (DXA-based vertebral fracture assessment [VFA] can be used as an alternative to lateral spine X-ray).

https://www.shef.ac.uk/FRAX/tool.jsp

Country: UK Name/ID: About the risk factors

Questionnaire:

1. Age (between 40 and 90 years) or Date of Birth
   Age: 55 Date of Birth: Y: 1961 M: 01 D: 30
2. Sex: Male / Female
3. Weight (kg): 78
4. Height (cm): 181
5. Previous Fracture: No / Yes
6. Parent Fractured Hip: No / Yes
7. Current Smoking: No / Yes
8. Glucocorticoids: No / Yes
9. Rheumatoid arthritis: No / Yes
10. Secondary osteoporosis: No / Yes
11. Alcohol 3 or more units/day: No / Yes
12. Femoral neck BMD (g/cm^2)

T-Score: -2.5

Clear | Calculate

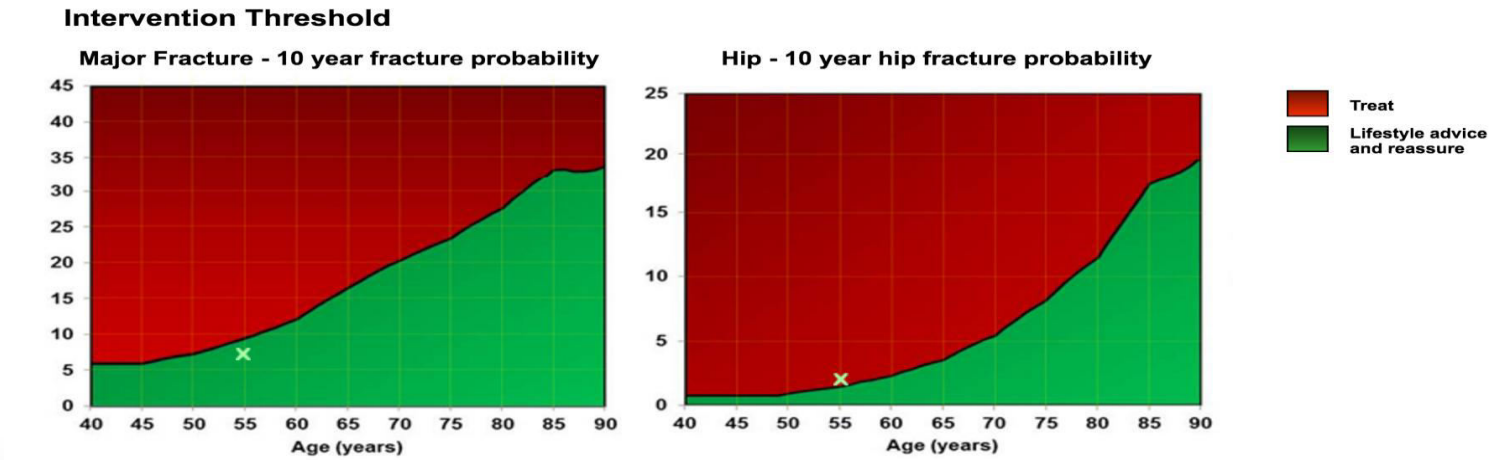
BMI: 23.8
The ten year probability of fracture (%)
with BMD

Major osteoporotic	7.5
Hip Fracture	2.8

View NOGG Guidance

If you have a TBS value, click here: Adjust with TBS

OPTIMISE cART
REFER TO GP OR DAY UNIT FOR TREATMENT



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TESTING 6

- HIV Associated Neurocognitive Disorder (HAND)
- SOCIAL SITUATION: combination of all social factors that come into play at any one time
- Isolation?

Are you concerned about your memory/concentration/cognition?

Has anybody around you expressed concern about your memory/concentration/cognition?

PHQ9 and GAD7

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(Use "✔" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3
Column totals	___	+ ___	+ ___	+ ___

Depression

Anxiety

(Use "□" to indicate your answer)	at all	days	days	every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3

EMQ

Disabil Rehabil. 2008;30(2):114-21.

The Everyday Memory Questionnaire-revised: development of a 13-item scale.

Royle J[1], Lincoln NB.

Abstract

PURPOSE: The Everyday Memory Questionnaire (EMQ) was developed as a subjective measure of memory failure in everyday life. Previous studies have investigated the factor structure of the EMQ in both healthy participants and people with multiple sclerosis (MS). The aim of the present study was to confirm the factor structure of the EMQ, to determine the internal consistency and criterion validity of the scale and to develop a shortened version.

METHOD: A retrospective design, including participants from a study on MS patients and their carers and a study on stroke patients. Psychometric properties of the EMQ-28 were explored, and the measure was further revised from comparative analyses between the clinical and non-clinical groups.

RESULTS: Reliability and factor analysis of the EMQ-28 identified two main factors, general memory and attentional function, showing some concordance with previous research. Further analysis reduced the questionnaire to a 13-item measure (EMQ-R), with two main factors (Retrieval and Attentional tracking), strong internal reliability, and good discriminatory properties between clinical and control groups.

CONCLUSIONS: The 28-item questionnaire consistently differentiated between two broad systems of memory and attention, with some differentiation of visual and verbal, or language systems. Results showed some consistency with previous findings. The revised, 13-item questionnaire is a valid and reliable tool that has good face validity for use with neurological patients. Further exploration of the revised EMQ is recommended to provide information regarding its psychometric and clinical properties.

EMQ

Disabil Rehabil. 2008;30(2):114-21.

The Everyday Memory Questionnaire-revised: development of a 13-item scale

Royl

Psychology/Neuropsychometric testing

HIV/Neurology clinic

Specialist clinics

1. Renal
2. Cardiology
3. Metabolic
4. Women & menopause
5. Neurology
6. Mental health
7. Erectile Dysfunction & Psychosexual
8. Complex Patients MDT
9. Care of Elderly/HIV
10. Drug
11. Ante-natal & Post-natal
12. National Cancer/HIV Centre – Prof M Bower

AIDS Patient Care STDS. 2023 May;37(5):213-214. doi: 10.1089/apc.2023.0011.
Epub 2023 Apr 20.

Results of a Multi-Disciplinary Approach Involving Geriatricians of a Clinic for Older People Living with HIV

Aylin Cansu Ates [1], Andrei Bachnak [1], Yana Murateva [1], Yarden Toiber Kent [1], Sophie Blackburn [2], Marta Boffito [1 2], Ana Milinkovic [1 2], Tim Tong [2], Maithili Varadarajan [2]

- Multi-morbidity 75.4%, polypharmacy was 46.6%
- Highest prevalence obesity (60.9%), musculoskeletal disorders (59.4%), and
- cardiovascular diseases (56.5%)
- Average of 16 hospital encounters in 2 years before latest PLUS50 clinic visit
- Most visited medical specialties:
  - endocrinology/metabolic (11.0%)
  - gastroenterology (9.4%)
  - orthopedics (8.0%)
  - psychiatry (7.5%)

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Specialist clinics

1. Renal
2. Cardiology
3. Metabolic
4. Women & menopause
5. Neurology
6. Mental health
7. Erectile Dysfunction & Psychosexual
8. Complex Patients MDT
9. Care of Elderly/HIV
10. Drug
11. Ante-natal & Post-natal
12. National Cancer/HIV Centre – Prof M Bower

Metabolic Clinic

- Live well pathway, lipids, weight, dietician support, exercise, physiotherapy, bone health

Peer Support

Peer support by clinic

	Mon	Tues	Wed	Thur	Fri	Sat
Kobler In-clinic F2F		Chris 1:30 - 5pm			Anthony 10 - 5pm	
West Mids In-clinic F2F			Chris 4 - 7pm			
56DS Remote only			David 1 - 5pm	David 1 - 5pm		
10HB In-clinic F2F			Anthony 2 - 7pm			
Remote clinics Phone / video	Anthony 10 - 5pm	Chris 7 - 9pm		Chris 11 - 3pm		Chris 10 - 12pm

Herts peer support clinics being set up following THT contract completion

July 2020 – Nov 2022

- 287 people (66% of referrals) engaged with peer-support
- Median age 45 years (range 16-74)
- 13% were female, 47% BAME vs 34.5% in the CWHFT HIV cohort
- Virtual appointments moved from 100% to 50% over time
- Rates of having a VL<50 increased from 71% at referral to 90% following peer-support, including new diagnoses.

PLUS – QI grant to focus on ED testing and women

Connect to Care

An HIV Peer Pilot Project supporting lost to follow up, delivery in partnership by Chelsea and Westminster Hospital and Sophia Forum.

Brough et al. BHIVA 2023

Conclusions

- This was our experience of an OVER50 clinic and more dedicated to people with HIV in London, UK
- The clinic undergoes regular, audits, service evaluations, patient feed-backs, publications
- We are training staff to run “the clinic” in all people with HIV>50 years and focus on specialist clinics… and refer to the specialist clinics mentioned
- We are optimizing geriatric / HIV care…

› Int J STD AIDS. 2012 Aug;23(8):546-52. doi: 10.1258/ijsa.2012.011412.

A dedicated clinic for HIV-positive individuals over 50 years of age: a multidisciplinary experience

L Waters [1], B Patterson, A Scourfield, A Hughes, S de Silva, B Gazzard, S Barton, D Asboe, A Pozniak, M Boffito

› AIDS Res Hum Retroviruses. 2021 Aug 13. doi: 10.1089/AID.2021.0083. Online ahead of print.

Evaluation of a Clinic Dedicated to People Aging with HIV at Chelsea and Westminster Hospital: Results of a 10-Year Experience

Branca Pereira [1 2], Maria Mazzitelli [1 3], Ana Milinkovic [1], Christina Casley [1], Javier Rubio [1], Rachel Channa [1], Nicolo Girometti [1], David Asboe [1], Anton Pozniak [1], Marta Boffito [1 2]

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