



# III Jornada de Actualización de VIH en Atención Primaria Hospital Clinic Barcelona

## Novetats en VIH

Francesc Vidal i Marsal  
Hospital Universitari de Tarragona Joan XXIII  
Universitat Rovira i Virgili  
[fvidalmarsal.hj23.ics@gencat.cat](mailto:fvidalmarsal.hj23.ics@gencat.cat)

# Temes a tractar

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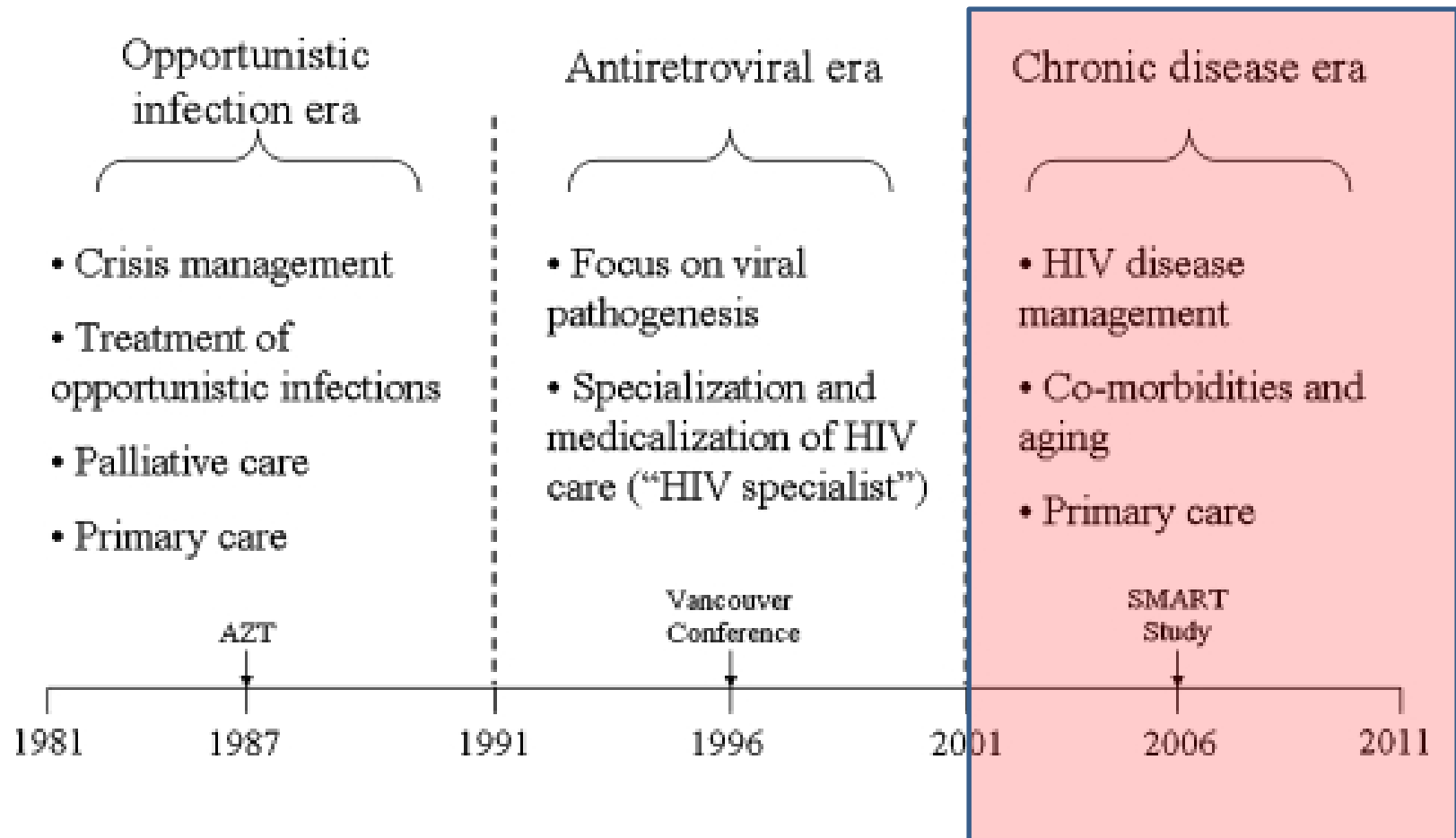
- Comorbilitats / envelliment
- Tractament
- Prevenció
- Diagnòstic

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# Las tres etapas del tratamiento de la infección por VIH



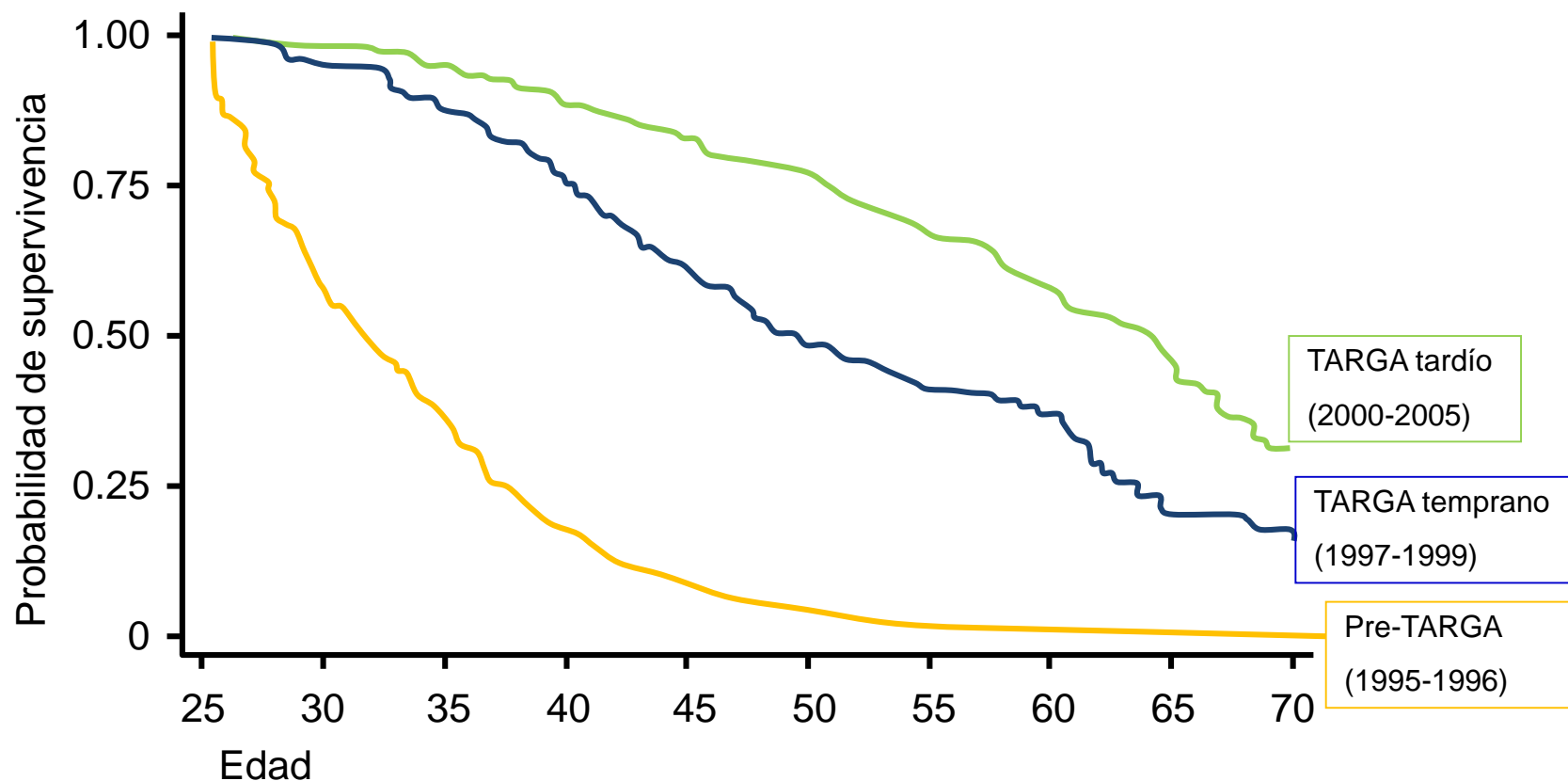
# The Aging of the HIV Epidemic in the US

CDC Surveillance Data



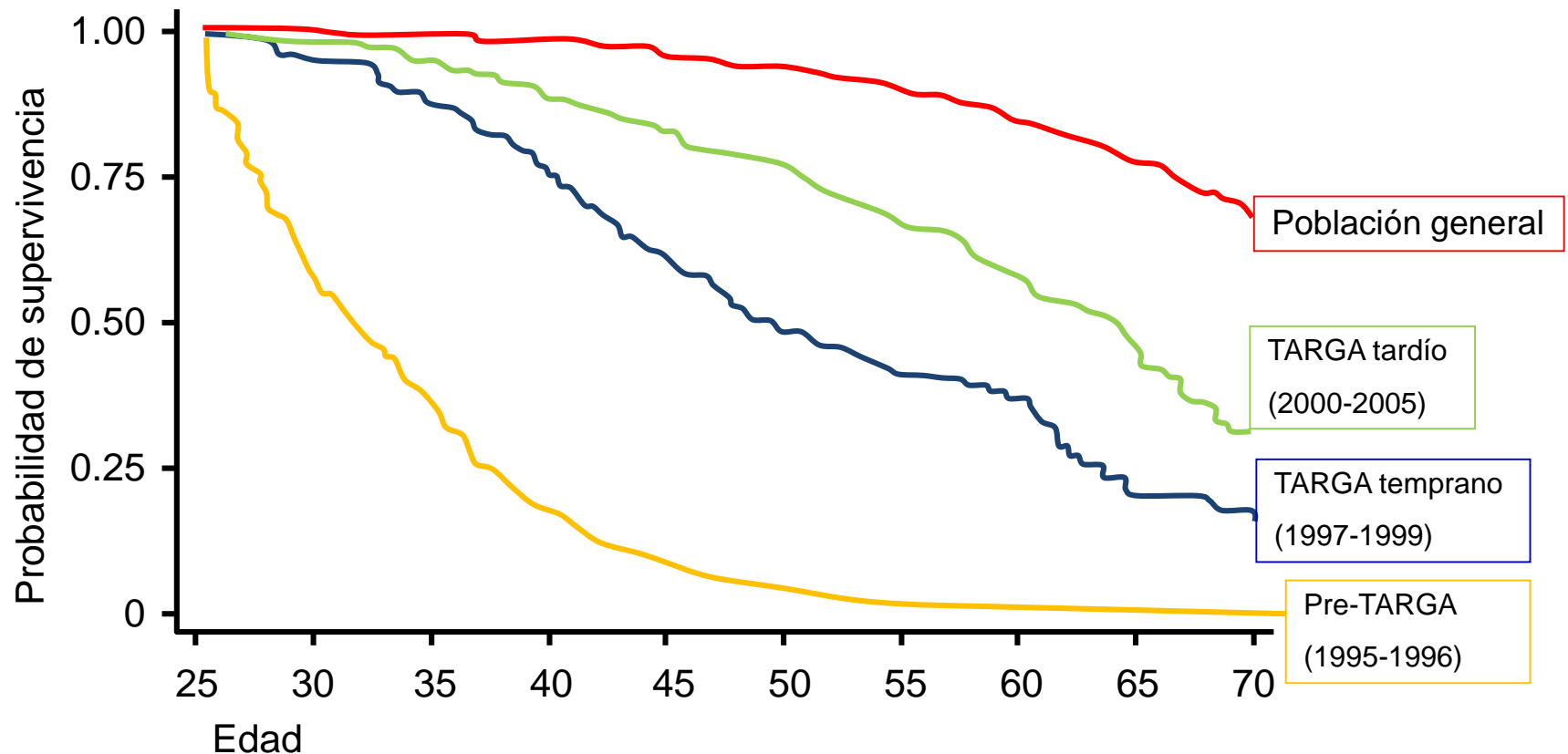
# Mayor supervivencia de las personas VIH (+) desde el comienzo del TARGA

Supervivencia de personas con y sin infección por VIH desde la edad de 25 años en Dinamarca, 1995-2005



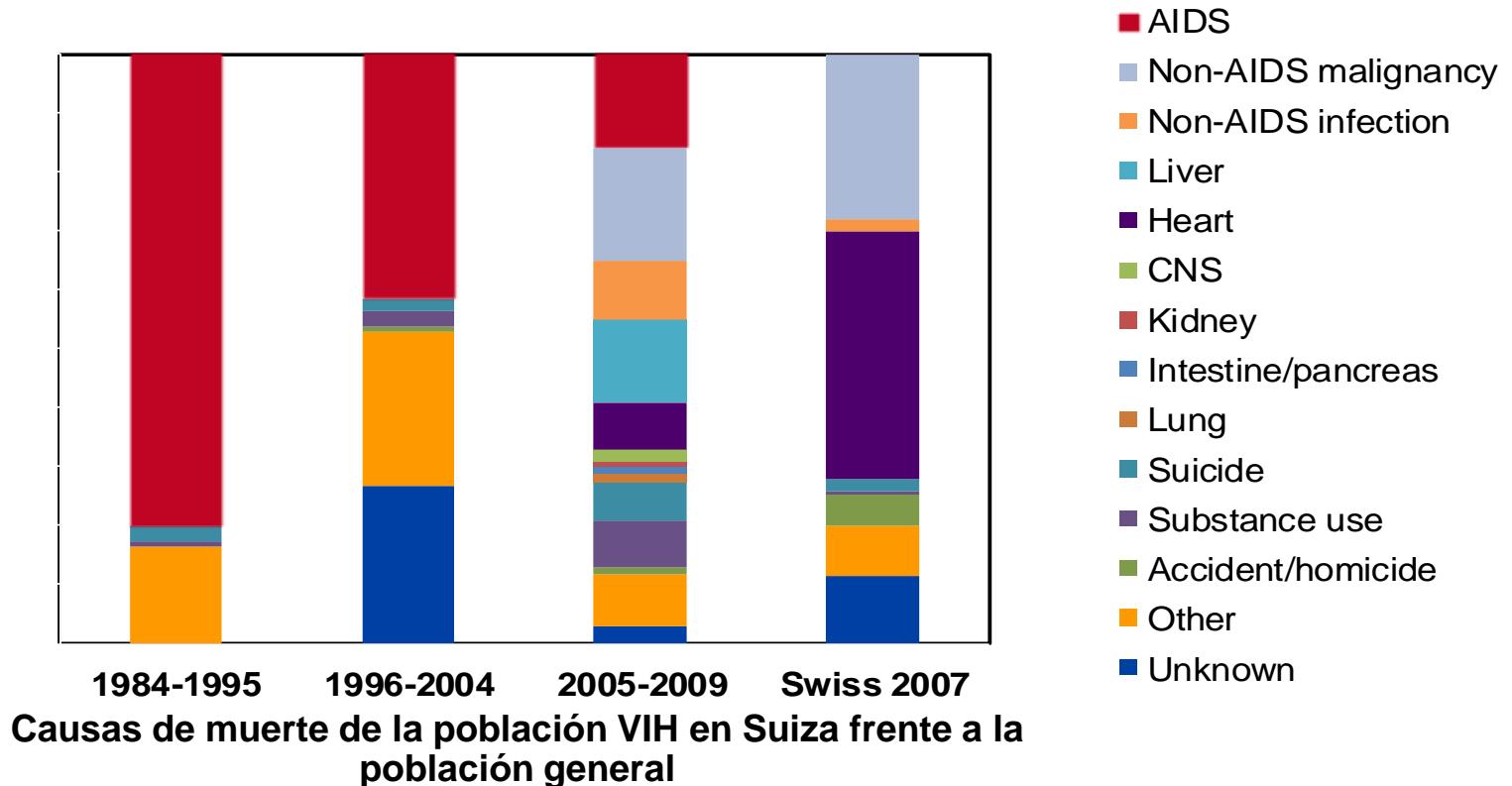
# ...pero menor supervivencia que la población general

Supervivencia de personas con y sin infección por VIH desde la edad de 25 años en Dinamarca, 1995-2005



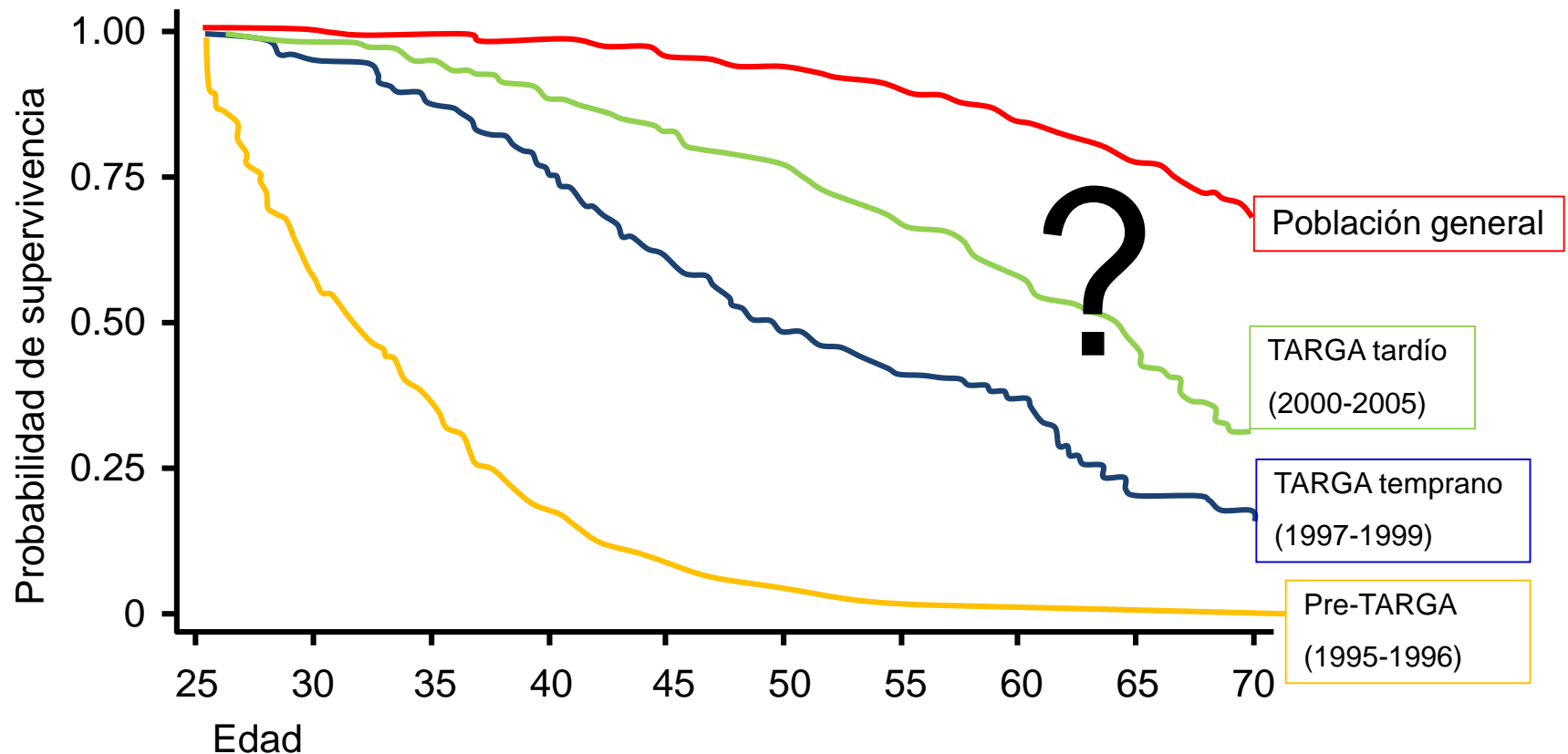
# Cambio de patrón en las causas de muerte (Cohorte Suiza)

Causas de muerte en la cohorte Suiza de VIH, en tres períodos diferentes, y en la población general suiza en 2007



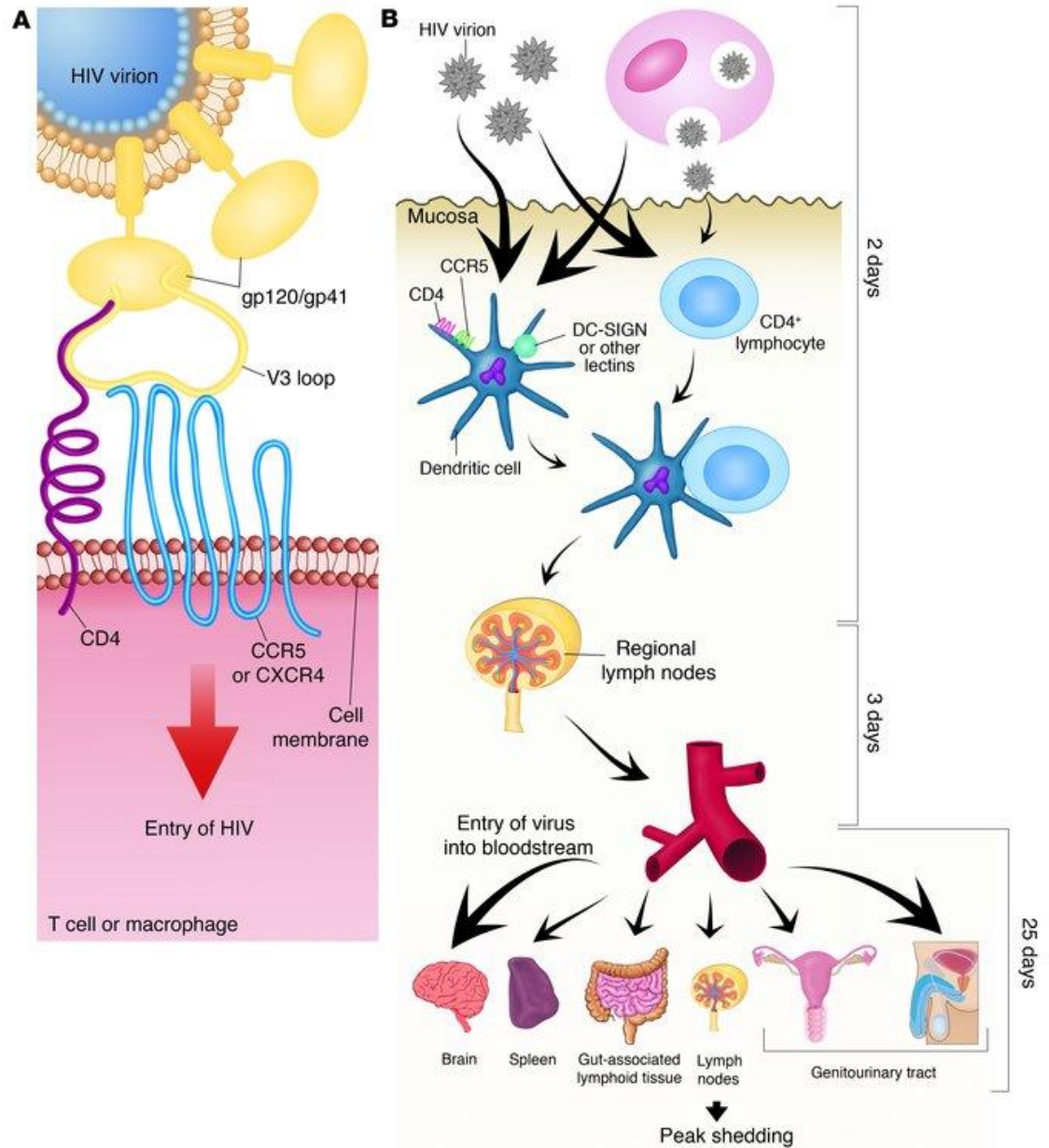
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Supervivencia de personas con y sin infección por VIH desde la edad de 25 años en Dinamarca, 1995-2005

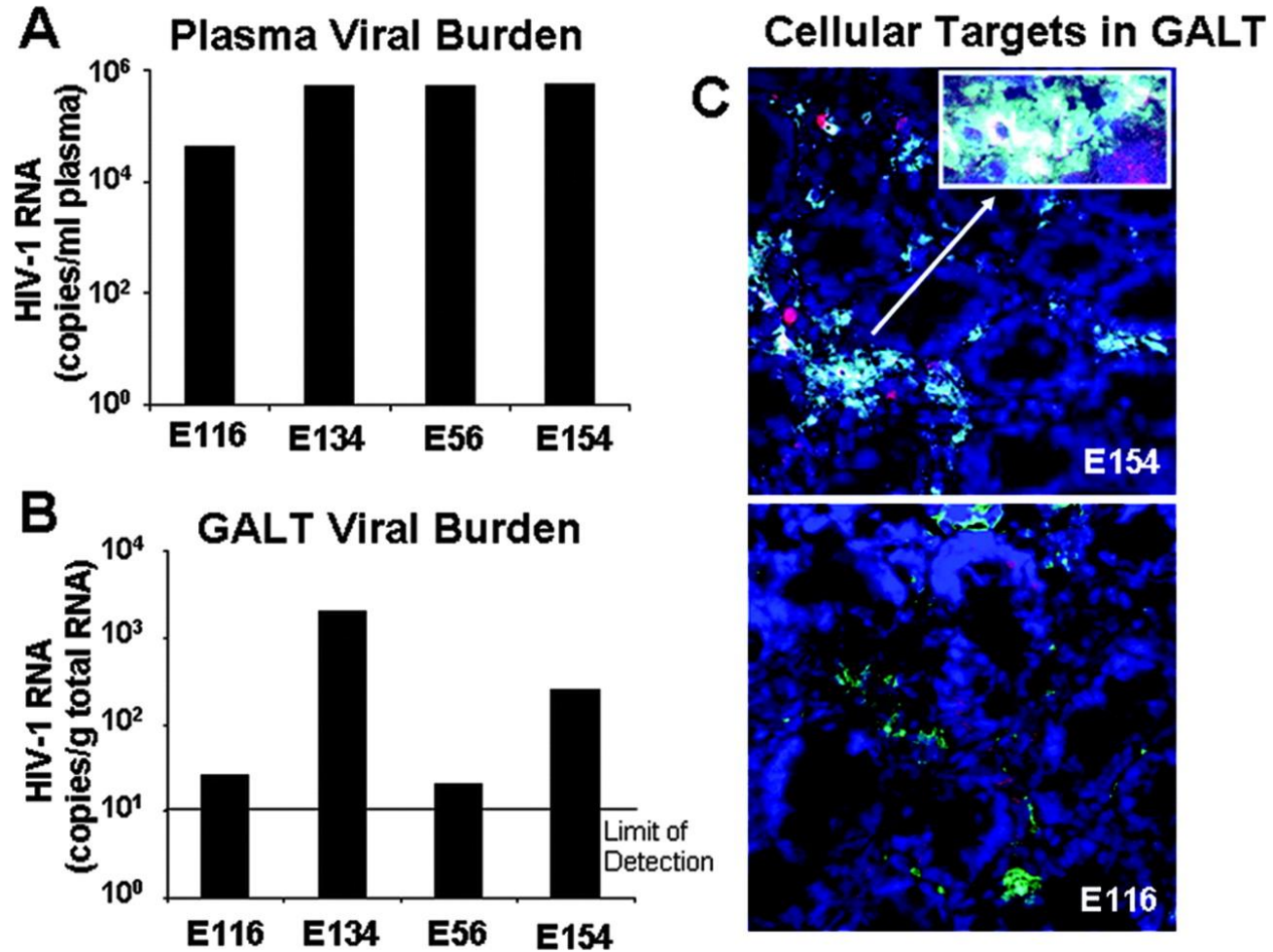


# Early events in infection with HIV

Pilcher CD, et al.  
J Clin Invest 2004

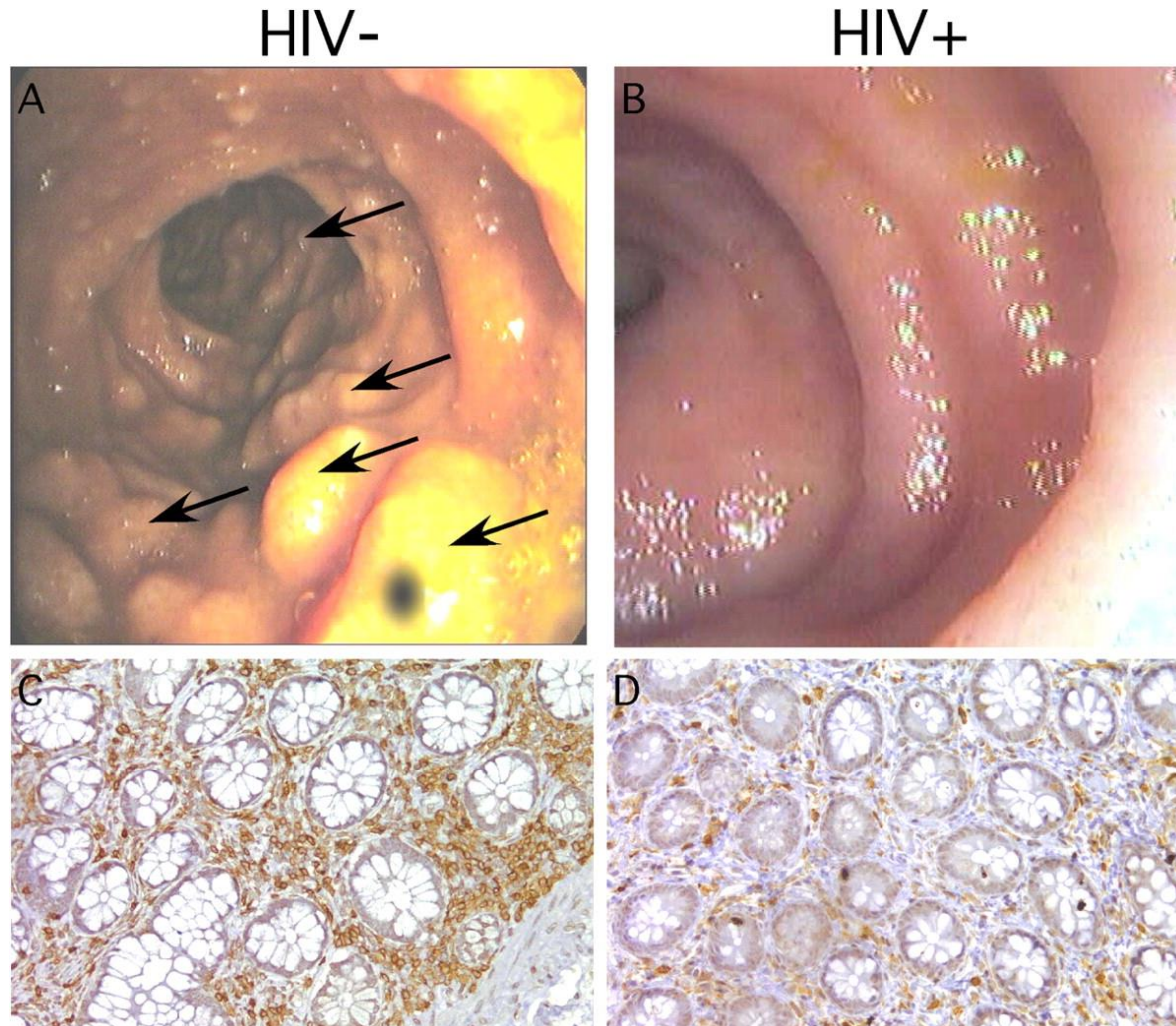


# Quantitation of viral loads and localization of HIV-infected cells in GALT during primary-stage HIV infection.



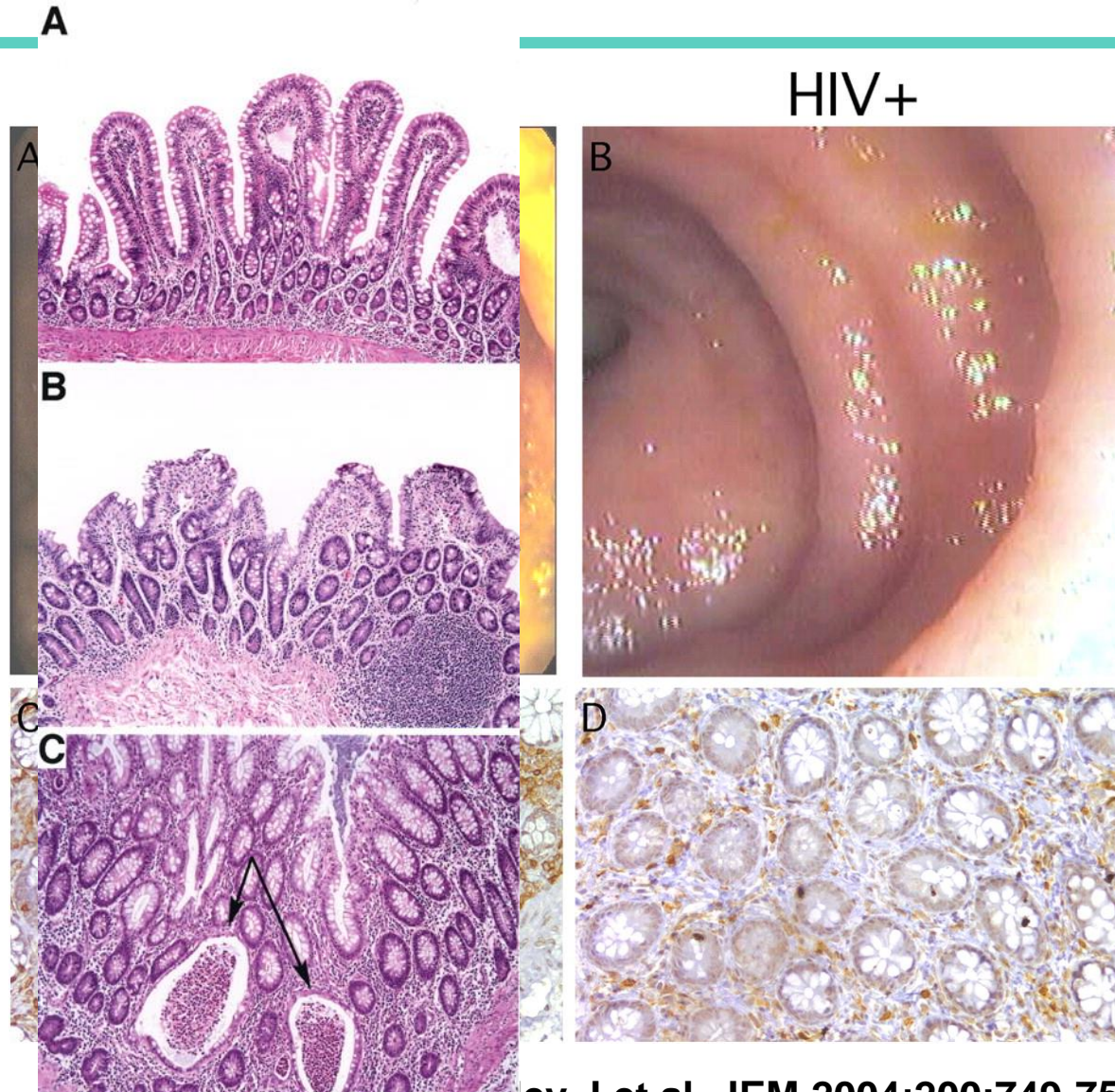
# Endoscopic and histological analysis of the GI tract.

-Rapid and massive (>50%) infection and loss of memory CCR5, CD4+ T-lymphocytes in multiples tissues



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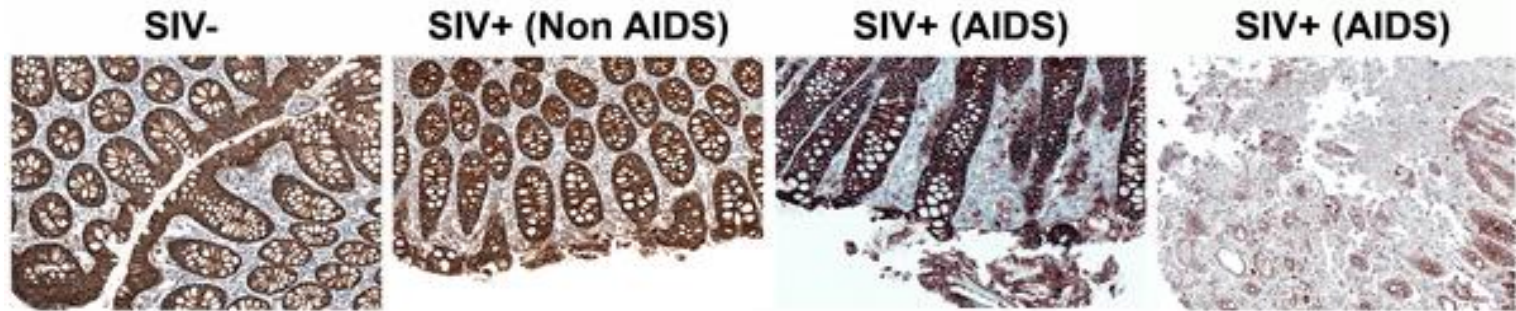
Brenchley J et al. JEM 2004;200:749-759

JEM

Damage to the integrity of the epithelial barrier is associated with infiltration of microbial products into the lamina propria

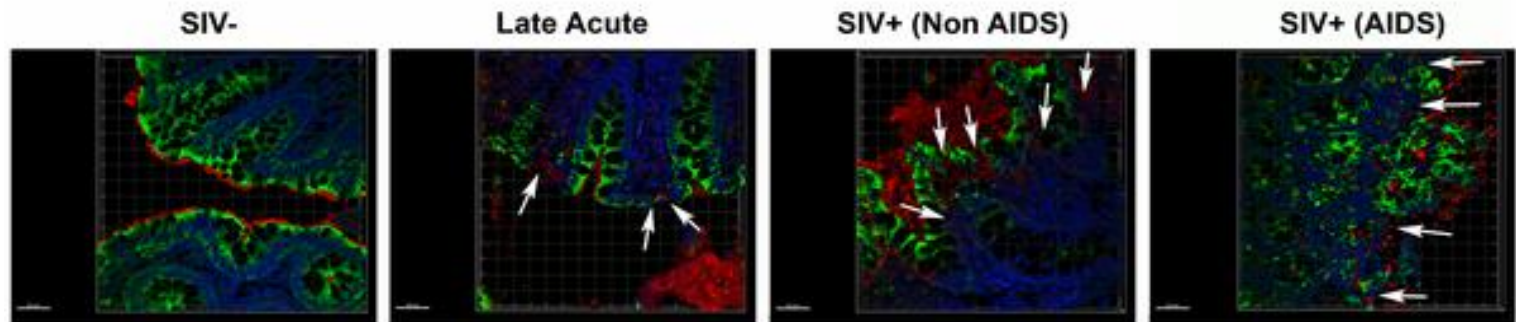
**A**

### Colon - Claudin-3



**B**

### Colon - Cytokeratin/E.coli/DAPI

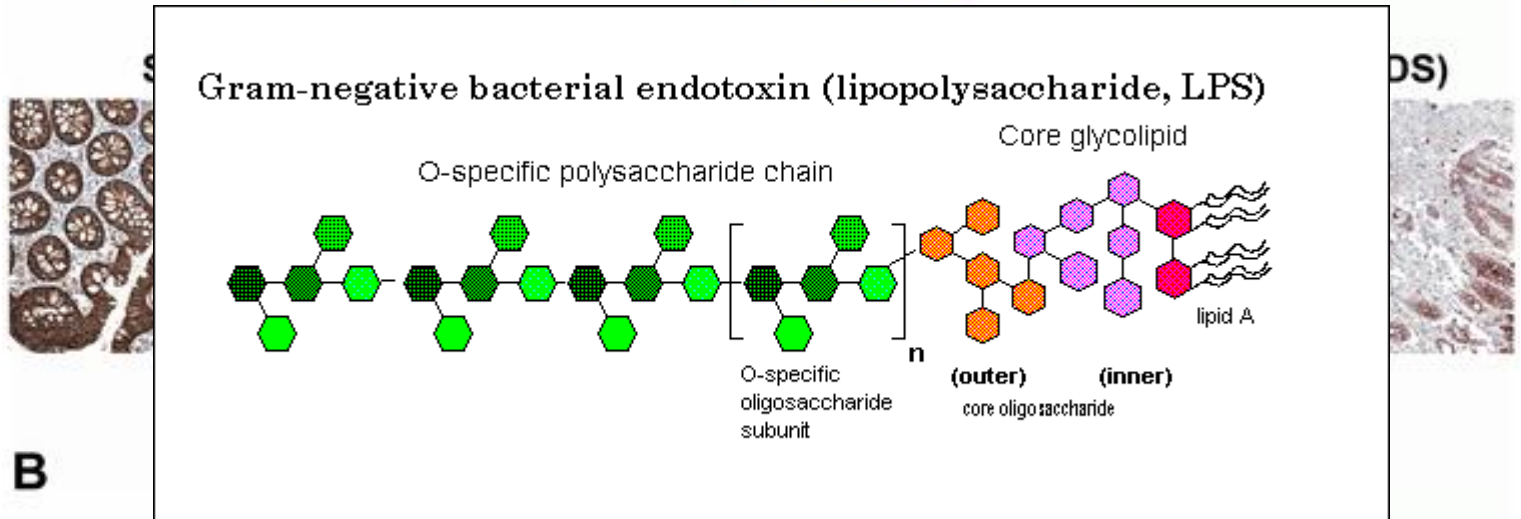


Estes JD, Harris LD, Klatt NR, Tabb B, et al. (2010) Damaged Intestinal Epithelial Integrity Linked to Microbial Translocation in Pathogenic Simian Immunodeficiency Virus Infections. PLoS Pathog 6(8): e1001052. doi:10.1371/journal.ppat.1001052  
<http://www.plospathogens.org/article/info:doi/10.1371/journal.ppat.1001052>

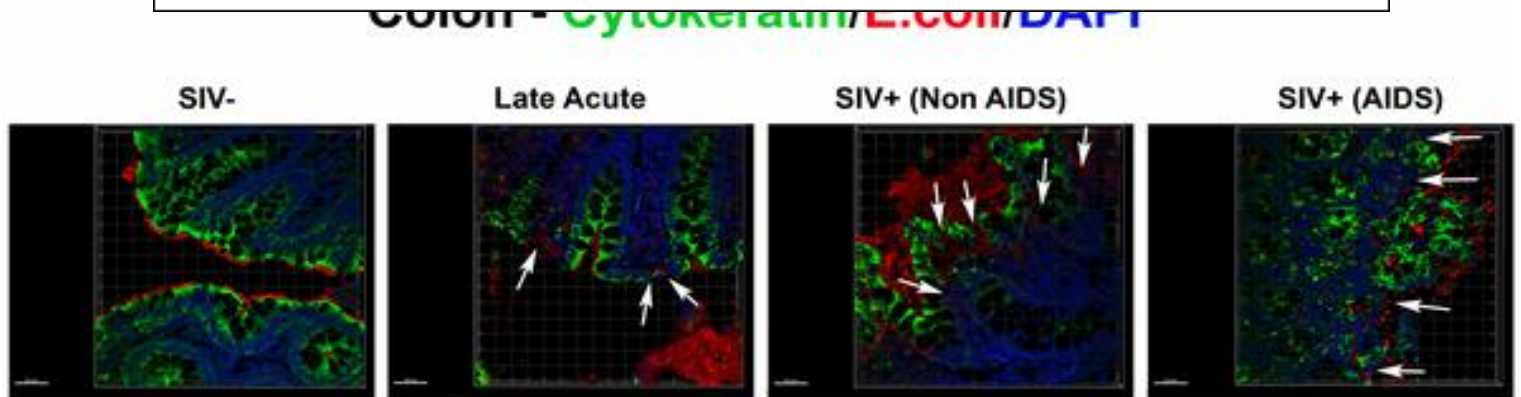
Damage to the integrity of the epithelial barrier is associated with infiltration of microbial products into the lamina propria

A

## Colon - Claudin-3

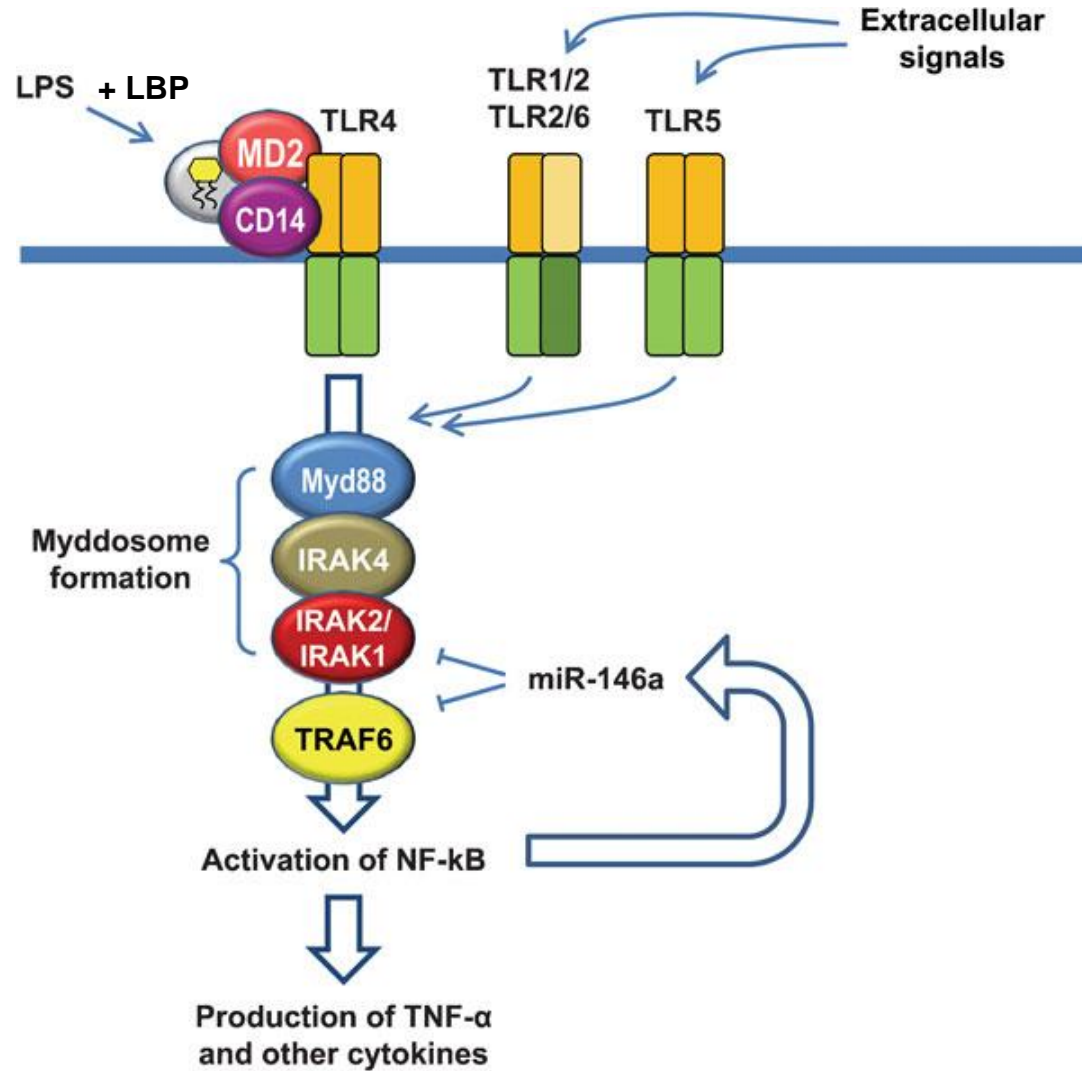


B

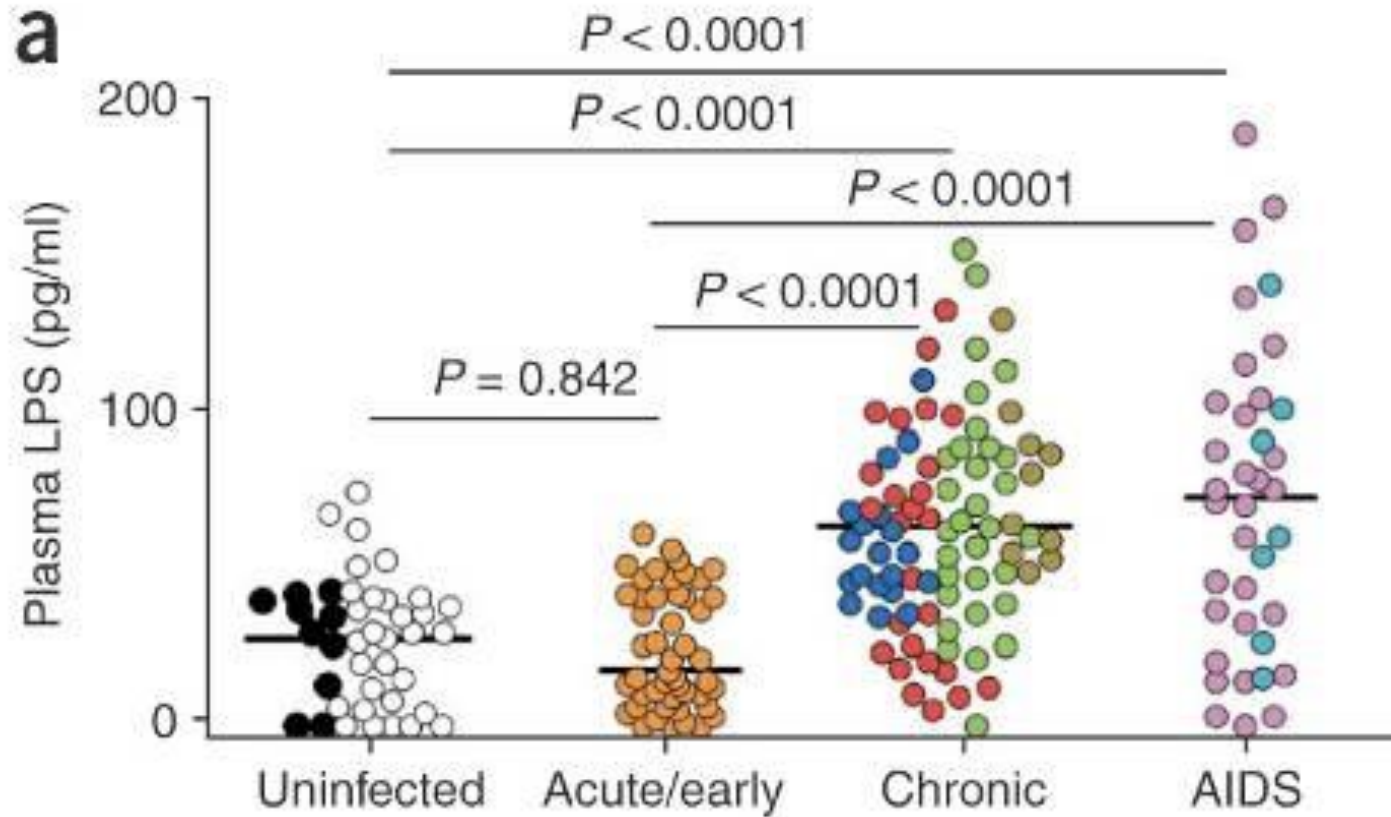


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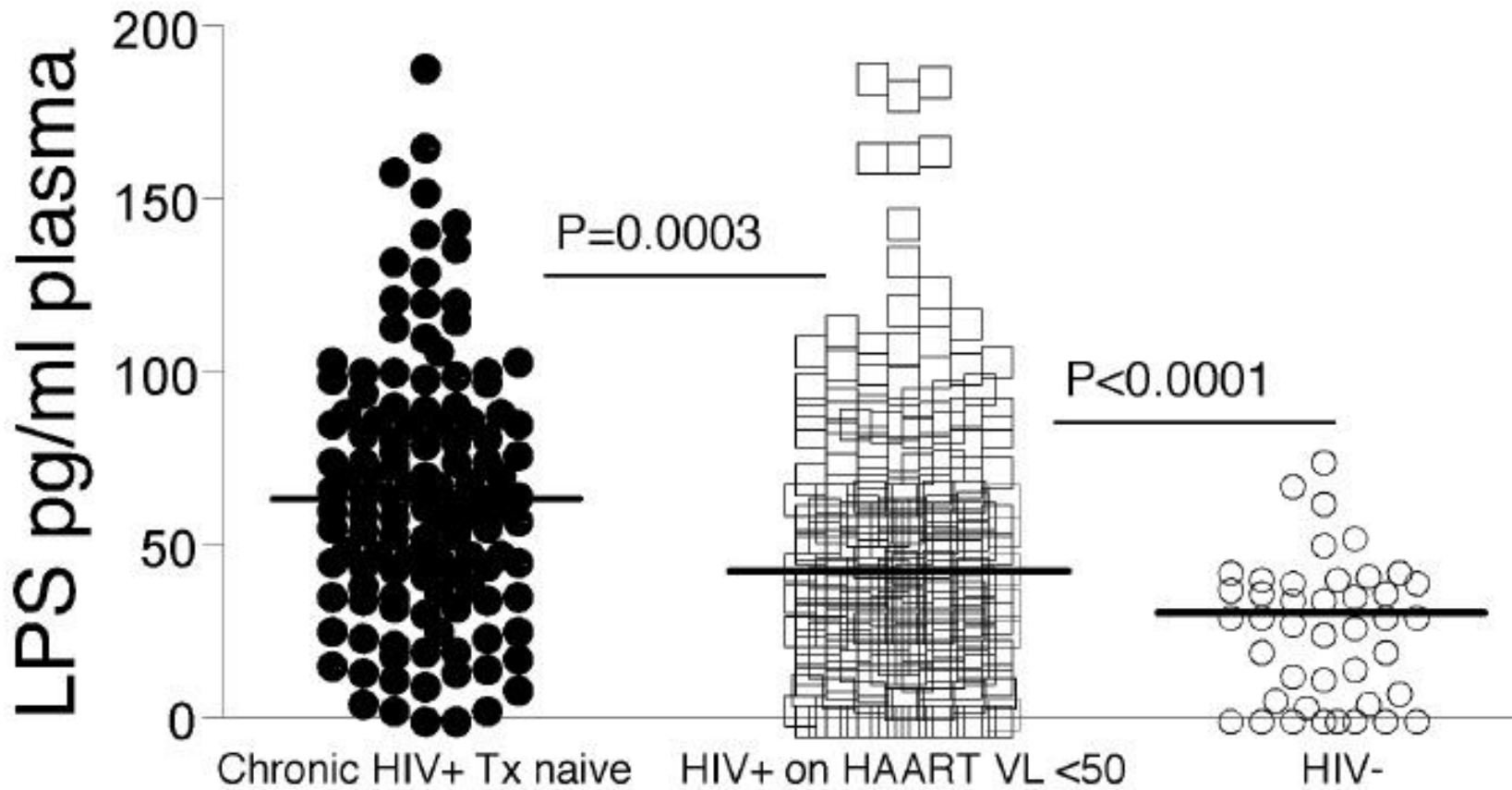
# Endotoxin and TLR signaling pathway



# LPS en diferents escenaris de la infecció pel VIH

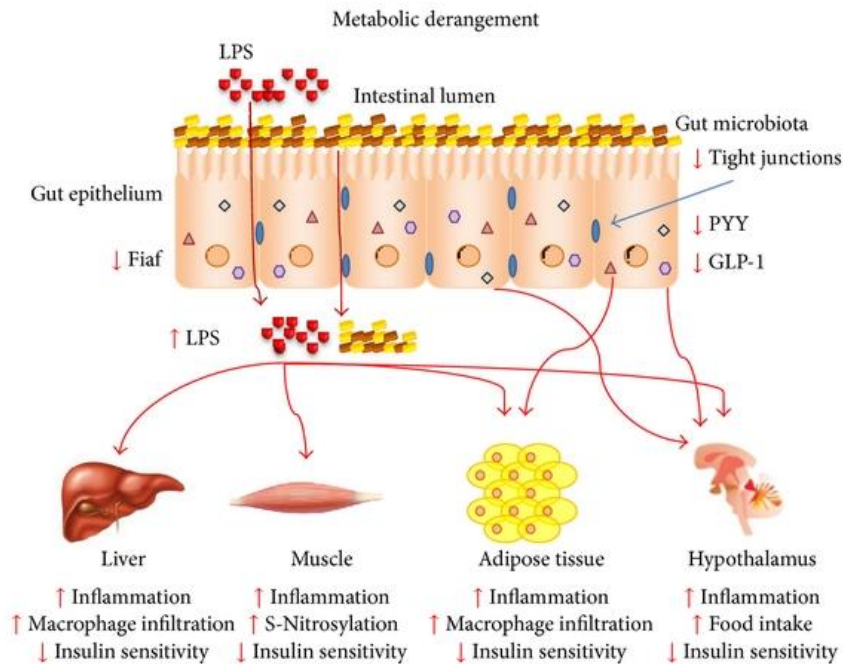


# Microbial translocation and HAART

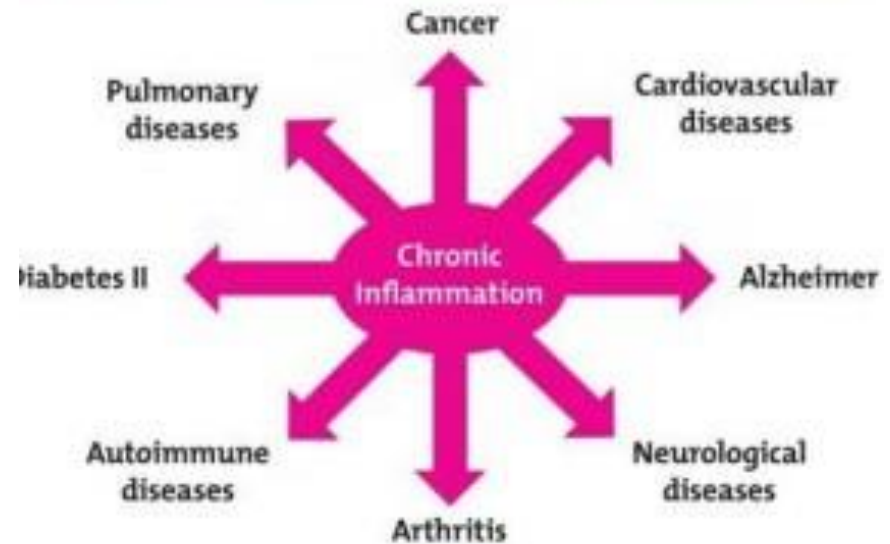


HAART results in decreased MT, but it remains significantly elevated compared to uninfected individuals

# Consequences of chronic inflammatory state



## Chronic Inflammation Can Lead To...

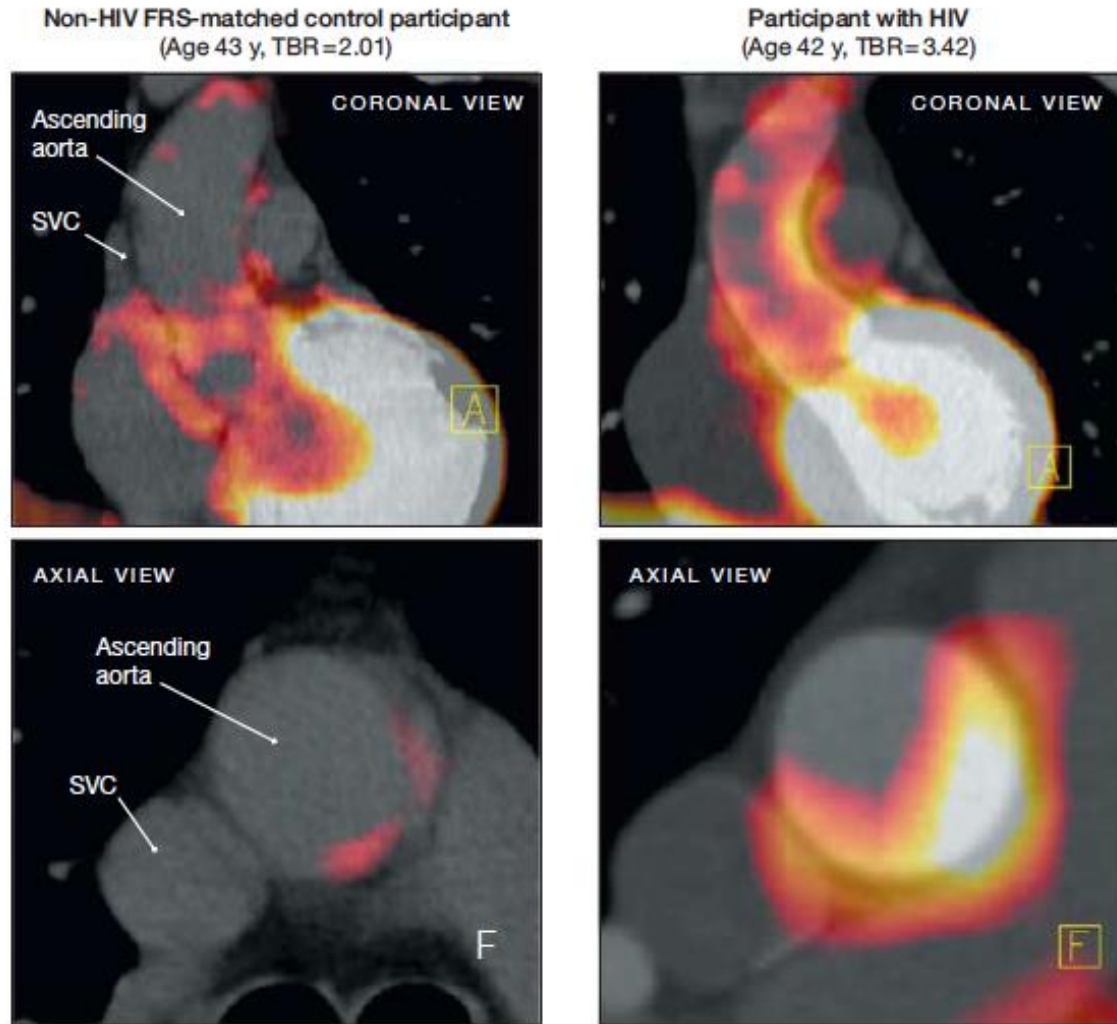


# Arterial Inflammation in Patients With HIV

**Figure 2.** Representative  $^{18}\text{F}$ -FDG-PET/CT Imaging of the Aorta

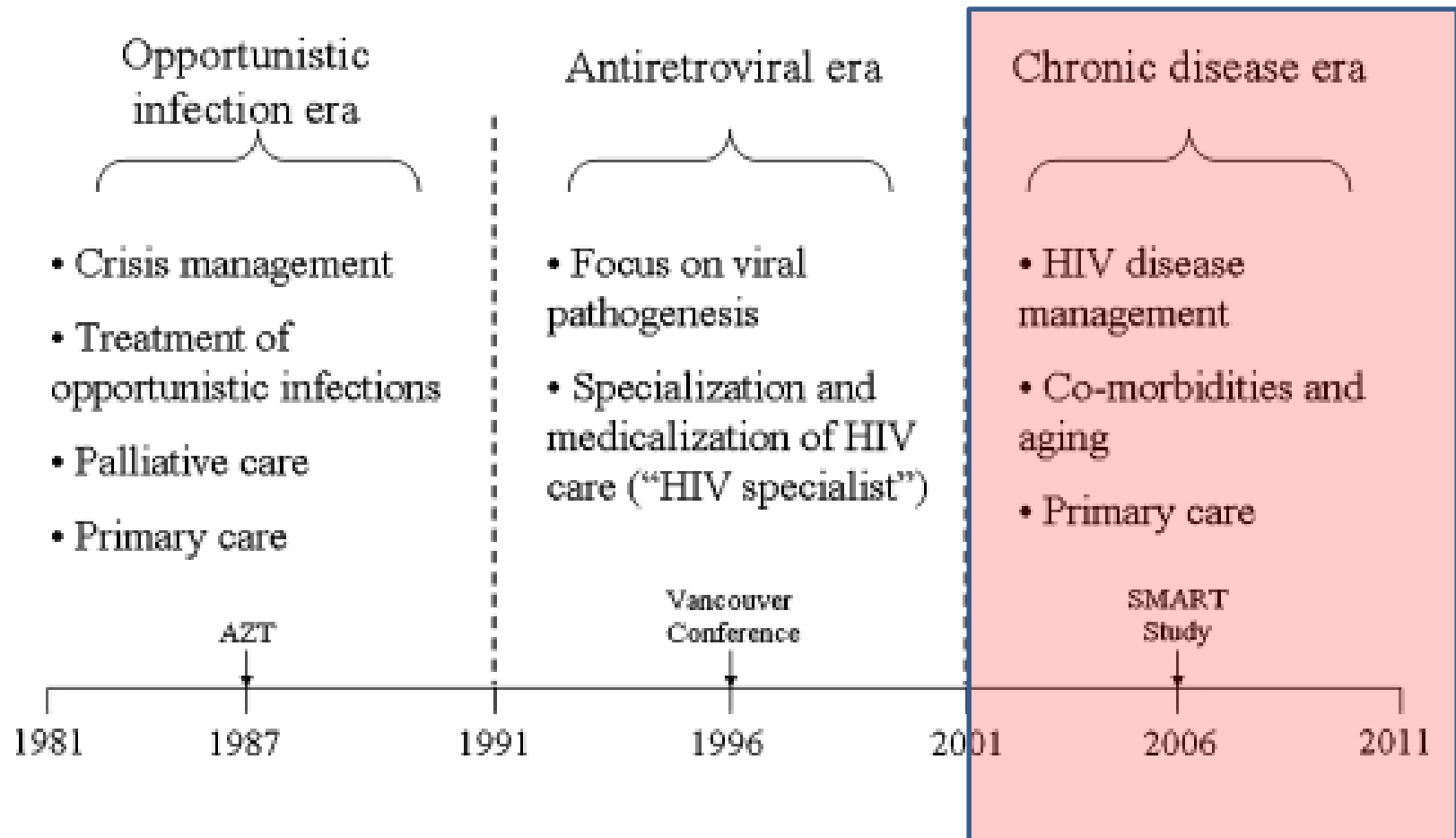
Arterial inflammation as measured by PET-scan is increased in HIV-infected patients as compared to HIV-subjects with the same FRS

*Subramanian S,  
JAMA 2012*



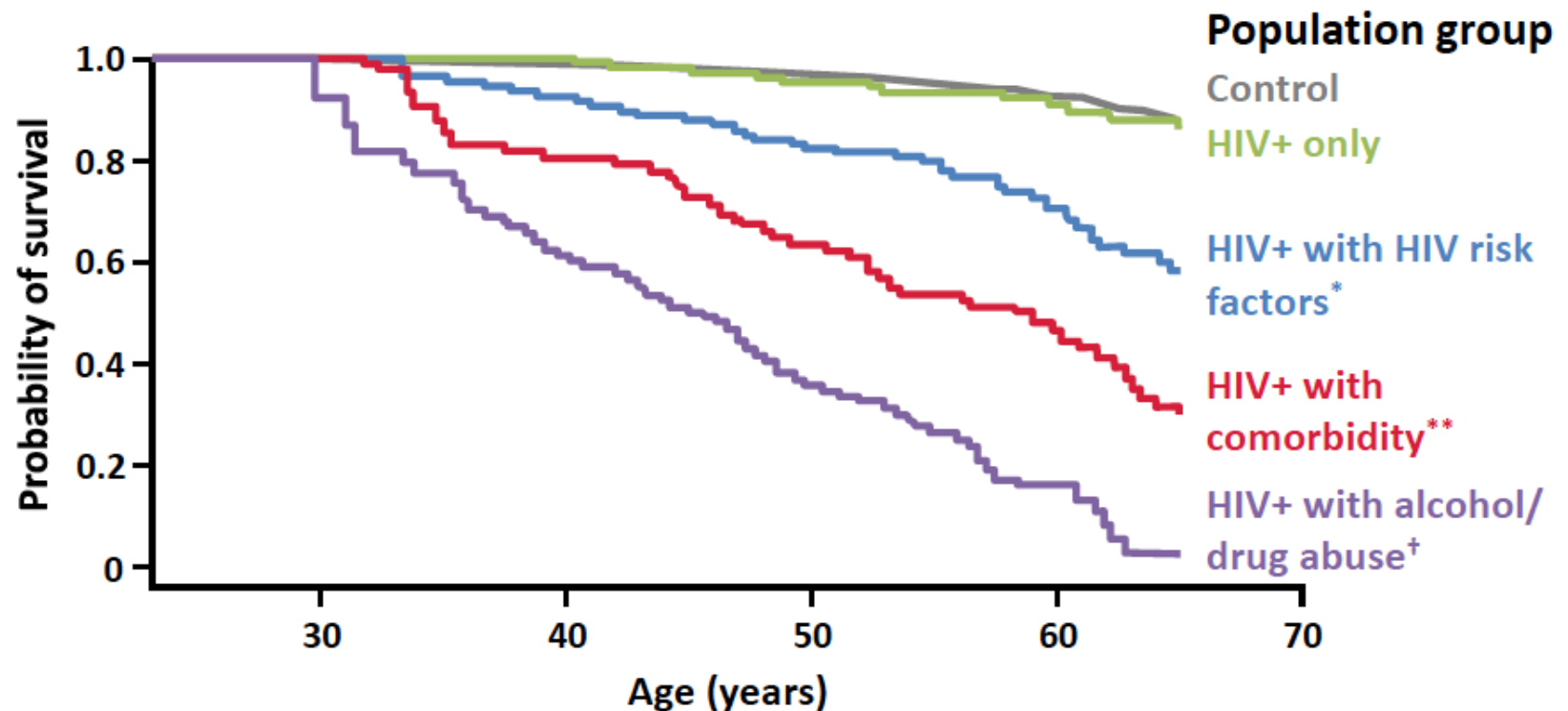
$^{18}\text{F}$ -FDG-PET indicates  $^{18}\text{F}$ fluorine-2-deoxy-D-glucose positron emission tomography; CT, computed tomography; FRS, Framingham risk score; HIV, human immunodeficiency virus; SVC, superior vena cava; TBR, target-to-background ratio. There is increased aortic PET-FDG uptake (red coloration) in a participant infected with HIV compared with a non-HIV FRS-matched control participant. Neither participant had known heart disease. For each participant, the FRS was low with a score of 2 and calcium was not present on the cardiac CT scan. Neither participant was receiving a statin. A indicates anterior-posterior orientation and F, foot-head orientation.

# Las tres etapas del tratamiento de la infección por VIH



# La ausencia de factores de riesgo y comorbilidades influyen en las expectativas de vida

## Cumulative survival for HIV-infected patients starting HAART and persons from the general population

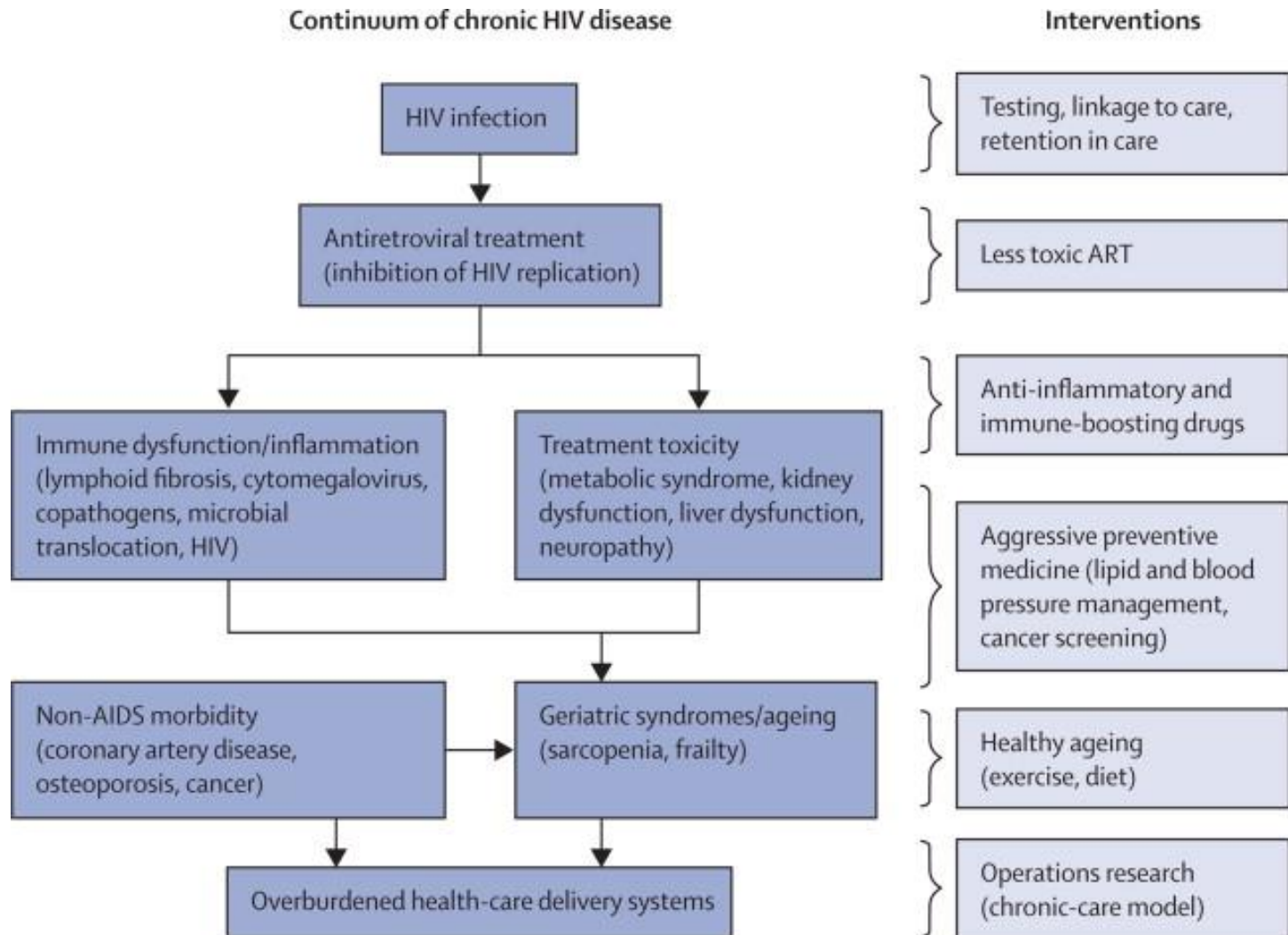


\* Viral load >49 copies/mL, CD4 <200 cells/ $\mu$ L, AIDS-defining disease \*\*as defined in the Charlson comorbidity index (CCI);

† Drug abuse reported as route of HIV transmission

# What can / should we do?

The end of AIDS: HIV infection as a chronic disease



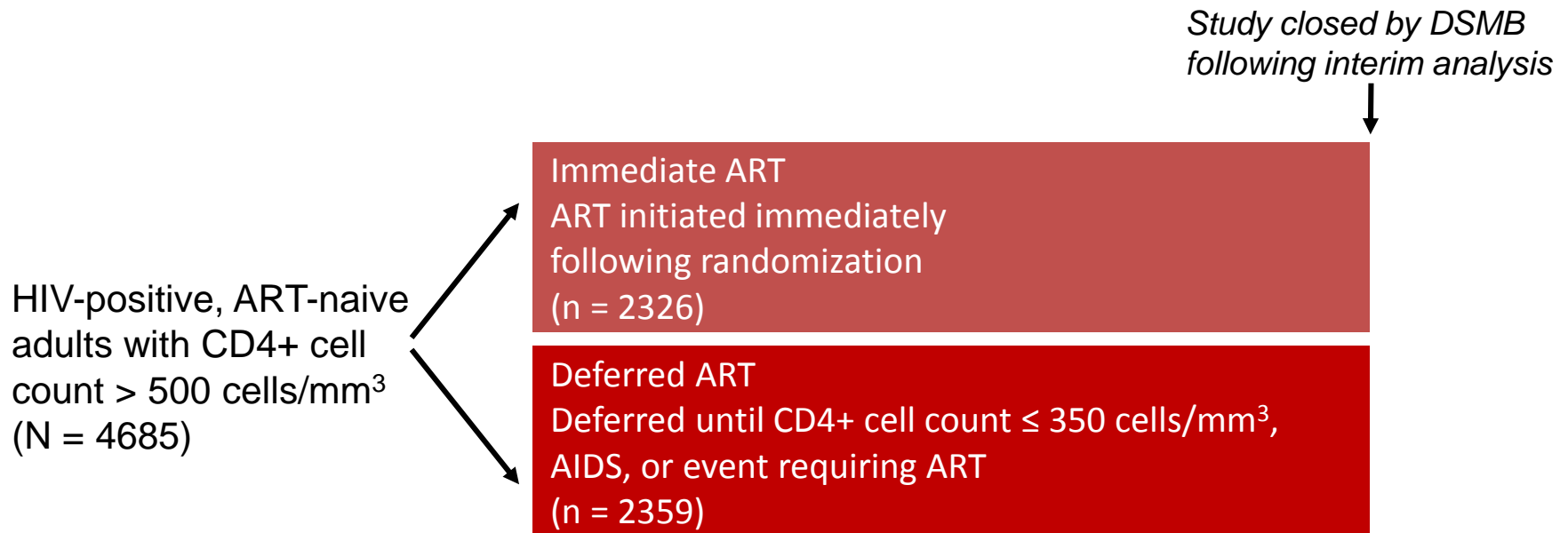
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# START: Immediate vs. Deferred Therapy for Asymptomatic, ART-Naive Pts

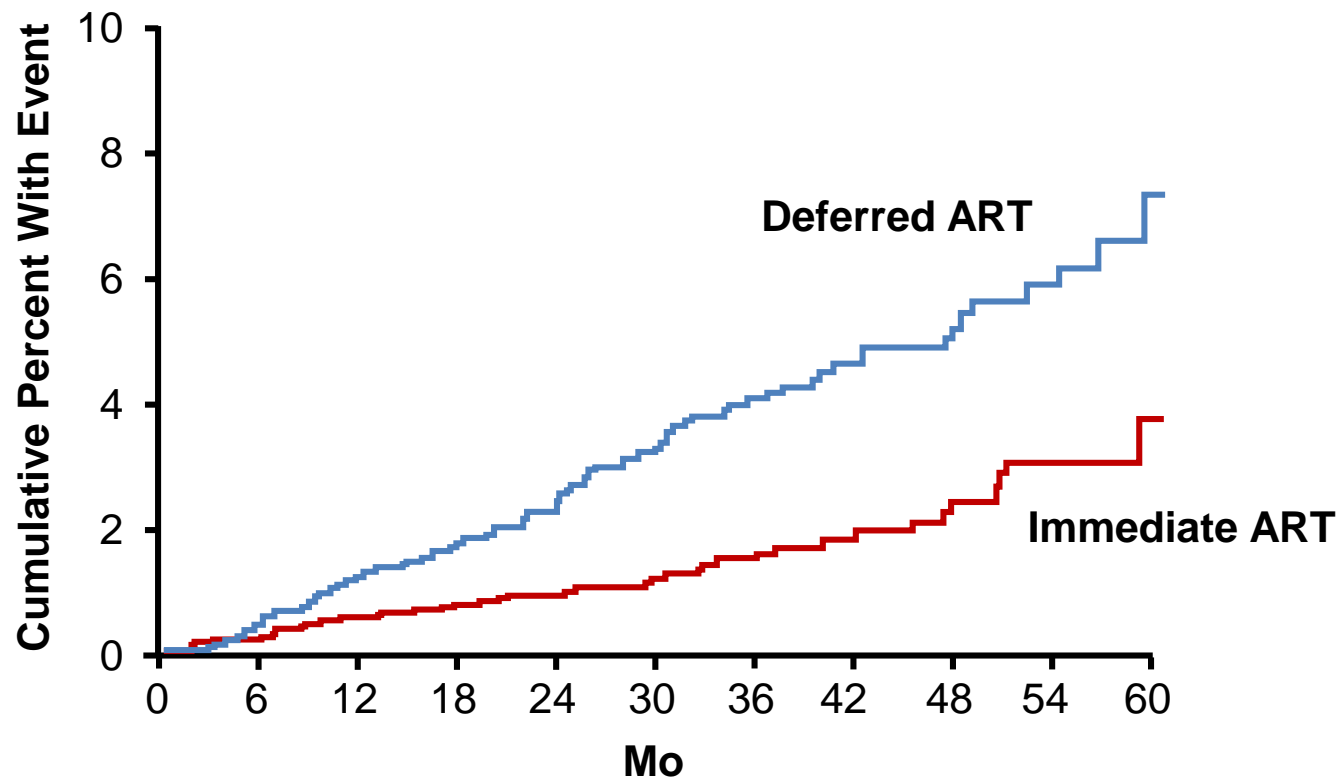
- International, randomized trial



- Composite primary endpoint: any serious AIDS-related (AIDS-related death or AIDS-defining event) or non-AIDS-related event (non-AIDS-related death, CVD, end-stage renal disease, decompensated liver disease, non-AIDS-defining cancer)
- Mean follow-up: 3 yrs; median baseline CD4+ cell count: 651 cells/mm<sup>3</sup>; median baseline HIV-1 RNA: 12,759 copies/mL
- Median CD4+ cell count at initiation of ART for deferred group: 408 cells/mm<sup>3</sup>

# START: 57% Reduced Risk of Serious Events or Death With Immediate ART

- 4.1% vs 1.8% in deferred vs immediate arms experienced serious AIDS or non-AIDS-related event or death (HR: 0.43; 95% CI: 0.30-0.62;  $P < .001$ )

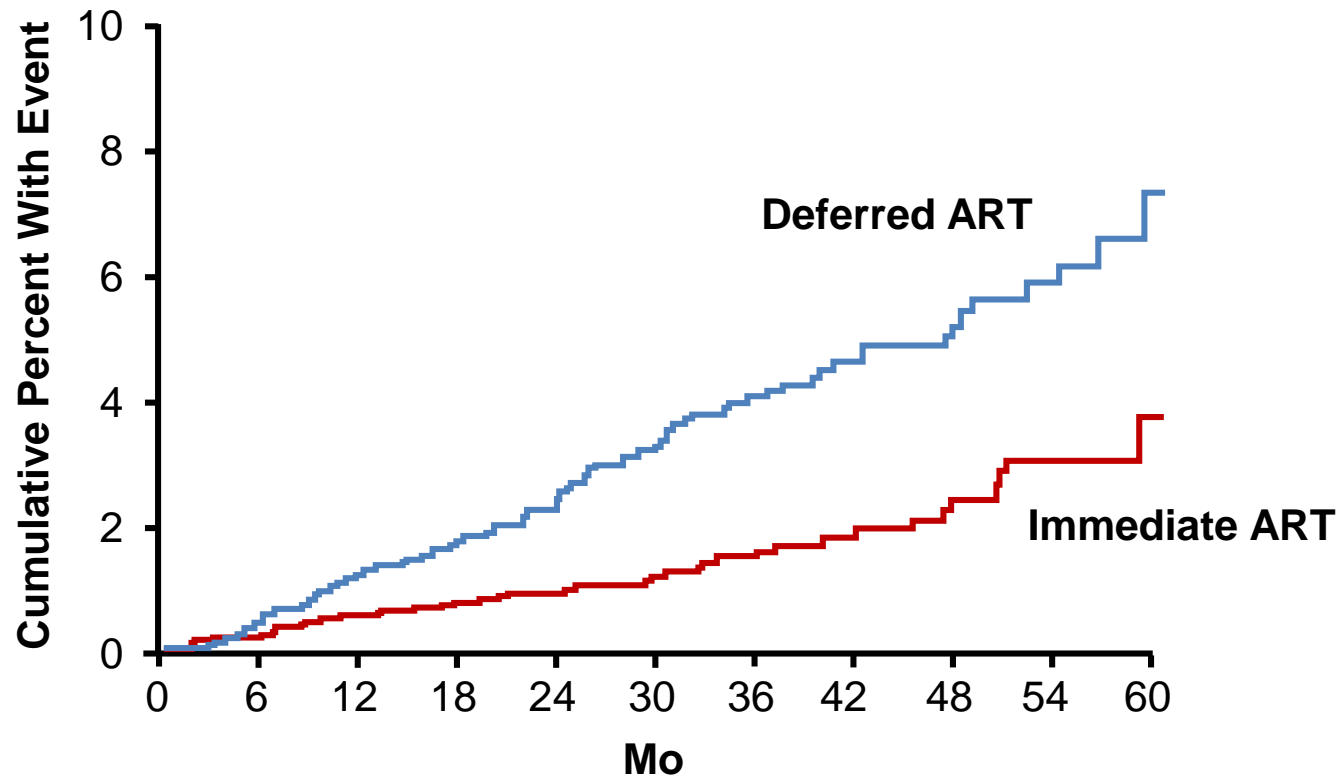


# START: Primary Endpoint Components With Immediate vs Deferred ART

Endpoint	Immediate ART (n = 2326)		Deferred ART (n = 2359)		HR (95% CI)	P Value
	N	Rate/100 PY	N	Rate/100 PY		
Serious AIDS-related event	14	0.20	50	0.72	0.28 (0.15-0.50)	< .001
Serious non-AIDS-related event	29	0.42	47	0.67	0.61 (0.38-0.97)	.04
All-cause death	12	0.17	21	0.30	0.58 (0.28-1.17)	.13
Tuberculosis	6	0.09	20	0.28	0.29 (0.12-0.73)	.008
Kaposi's sarcoma	1	0.01	11	0.16	0.09 (0.01-0.71)	.02
Malignant lymphoma	3	0.04	10	0.14	0.30 (0.08-1.10)	.07
Non-AIDS-defining cancer	9	0.13	18	0.26	0.50 (0.22-1.11)	.09
CVD	12	0.17	14	0.20	0.84 (0.39-1.81)	.65

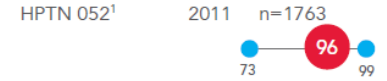
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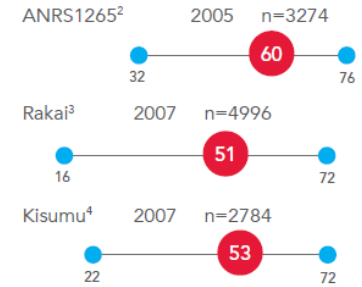


El tractament com a eina preventiva és molt eficaç

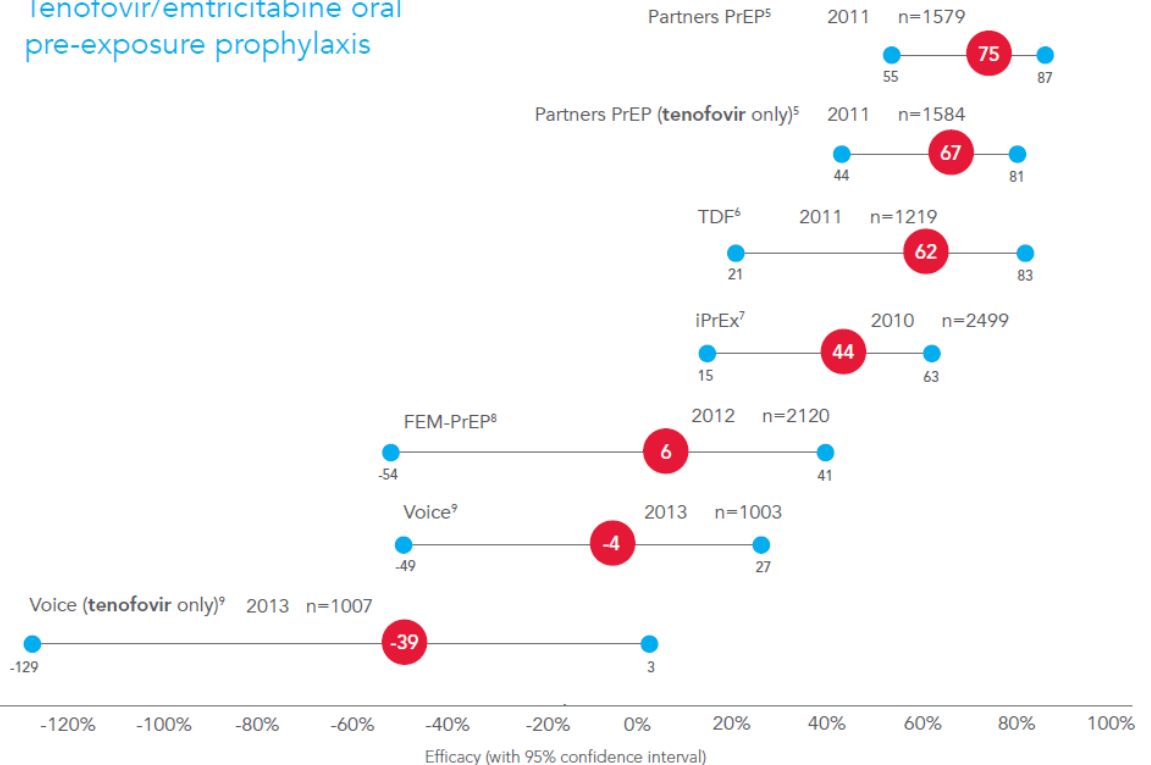
Immediate antiretroviral therapy for HIV-positive partner



Medical male circumcision



Tenofovir/emtricitabine oral pre-exposure prophylaxis





## REDUCING HIV UNKNOWN CASES IN SPAIN

Yaiza Rivero Montesdeoca  
MD, MIA, MPH  
Institute of Health Carlos III



# Missatges a recordar

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1. Estat inflamatori crònic
2. Envelliment precoç, comorbiditats incrementades
3. TARV immediat
4. TARV com a prevenció
5. Estratègia diagnòstica universal?



UNIVERSITAT ROVIRA I VIRGILI

TGN▲Salut AE  
Aliança Estratègica



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Barcelona, 13 de novembre de 2015