

U=U What does it mean for People Living with HIV

Nikos Dedes, European AIDS Treatment Group

3rd Ageing with HIV Conference, Kiev, 4 May 2018

PLHIV

- 👁️ Lift of the fear of being a life long danger to others
- 👁️ Regaining the right to uninhibited experience of intimacy and sexual pleasure
- 👁️ Yes, we will have children
- 👁️ Help reduce stigma and discrimination

[illegible]

Media Coverage



World AIDS Conference – Paris, July 2017

A graphic with a teal background featuring a geometric pattern of triangles. On the left, the text 'U=U' is written in large white letters. Below it, a horizontal line separates the text 'UNDETECTABLE' from 'UNTRANSMITTABLE', with an equals sign between them. On the right, a vertical line separates the text 'A PERSON LIVING WITH HIV WHO HAS AN UNDETECTABLE VIRAL LOAD DOES NOT TRANSMIT THE VIRUS TO THEIR PARTNERS.' from the rest of the graphic. In the top right corner, there is a small white box containing the letters 'I A S' and a red ribbon symbol. At the bottom, a line of text reads: 'The International AIDS Society is proud to endorse the U=U consensus statement of the Prevention Access Campaign.'

U=U

**UNDETECTABLE
=
UNTRANSMITTABLE**

A PERSON LIVING WITH HIV
WHO HAS AN UNDETECTABLE
VIRAL LOAD DOES NOT
TRANSMIT THE VIRUS TO THEIR
PARTNERS.

The International AIDS Society is proud to endorse the U=U consensus statement of the Prevention Access Campaign.



HIV & AIDS in the United States

INFORMATION FROM CDC'S DIVISION OF HIV/AIDS PREVENTION

September 27, 2017

- “When ART results in viral suppression, defined as less than 200 copies/ml or undetectable levels, it prevents sexual HIV transmission.”
- “.... no HIV transmissions to an HIV-negative partner were observed when the HIV-positive person was virally suppressed. This means that people who take ART daily as prescribed and achieve and maintain an undetectable viral load have effectively no risk of sexually transmitting the virus to an HIV-negative partner”

Timeline

- 1994 - AZT Reduces Transmission from mother to child
- 1998 - HAART stops mother to child transmission
- 2000 - Rakai Observational Study
- 2006 - Treatment as Prevention; Montaner, Lancet
- 2008 - Swiss Statement: Zero Risk when on treatment
- 2011 - HPTN 052: 96% Reduction of Risk Transmission
- 2014 - PARTNER: zero transmission/44.000 sex acts
- 2016 - PARTNER: zero/58.000
- 2016 - U=U Wide endorsement
- 2017 - Opposites Attract – Zero transmissions/ 16.889 sex acts
- 2017 - IAS & CDC endorsement

Antiretroviral Therapy (ART) and Prevention

- **Vertical transmission – Prevention of Mother to Child Transmission (PMTCT)**
 - AZT alone reduced MTCT from 25% to 8% **Connor NEJM 1994**
 - Current ART reduces MTCT to <0.5%



Rakai Population

- Rakai cohort consists of 15,127 people in 50 communities in rural Uganda originally formed in 1988
- 5,021 couples in stable sexual relationships were retrospectively “assembled” in this community-based setting, with a high prevalence of HIV (16.1%)
- 228 (30.8%) of 773 discordant couples seroconverted over a 10 year period
- Concordant seronegative couples had great risk for HIV transmission with index infection

HIV RNA and Heterosexual Transmission

Rakai, Uganda cohort:

415 serodiscordant couples
with

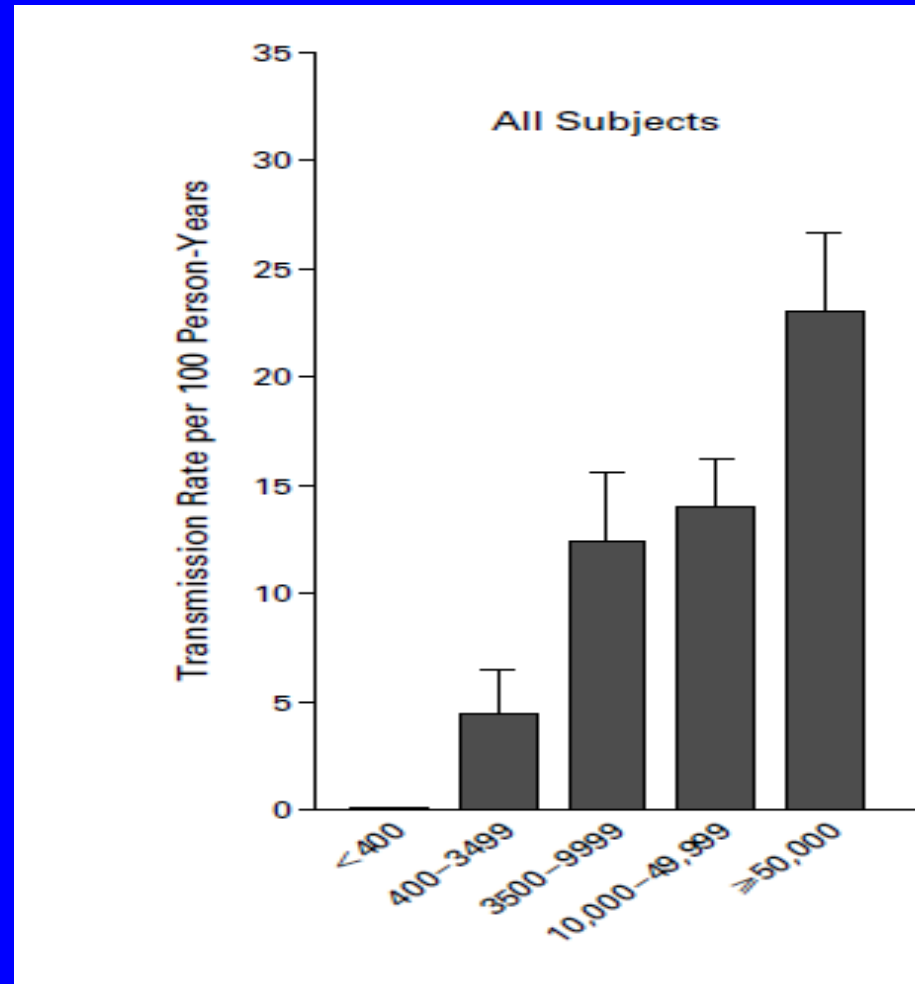
228 men HIV+

187 women HIV+

median f/u 30 months

$M \rightarrow F = F \rightarrow M$

No transmission when VL
<1500 (n=51)



Quinn et al. NEJM. 2000;342:921-929.



The NEW ENGLAND JOURNAL *of* MEDICINE

EDITORIAL

Preventing Sexual Transmission of HIV — New Ideas from Sub-Saharan Africa

Myron S. Cohen, M.D.

N Engl J Med 2000; 342:970-972 | [March 30, 2000](#) | DOI: 10.1056/NEJM200003303421311

The case for expanding access to highly active antiretroviral therapy to curb the growth of the HIV epidemic

Julio S G Montaner, Robert Hogg, Evan Wood, Thomas Kerr, Mark Tyndall, Adrian R Levy, P Richard Harrigan

"The upshot of this widespread failure to recognize that AIDS is an exceptional crisis and threat is that the response to the pandemic is not made commensurate to the challenges—and so the epidemic escalates even while it erodes our capacities to check it."

Dr Peter Piot, UNAIDS Executive Director¹



**International
AIDS Society**

Stronger Together



AIDS 2006

XVI International AIDS Conference

Time to Deliver

The case for expanding access to highly active antiretroviral therapy to curb the growth of the HIV epidemic

Julio S G Montaner, Robert Hogg, Evan Wood, Thomas Kerr, Mark Tyndall, Adrian R Levy, P Richard Harrigan

HAART stops HIV replication

!

HIV load falls to undetectable levels in plasma
as well as in sexual fluids

!

Sharp reduction in HIV transmission

Swiss Statement – 28 Jan 2008

- *Published in: Schweizerische Ärztezeitung / Bulletin des médecins suisses 2008; 89:5*
- **HIV-positive individuals on effective anti-retroviral therapy and without sexually transmitted diseases (STD) are sexually non-infectious**
- *Pietro Vernazza, Bernard Hirschel, Enos Bernasconi, Markus Flepp*

WAC Mexico, August 2008

Panel for the Swiss Statement

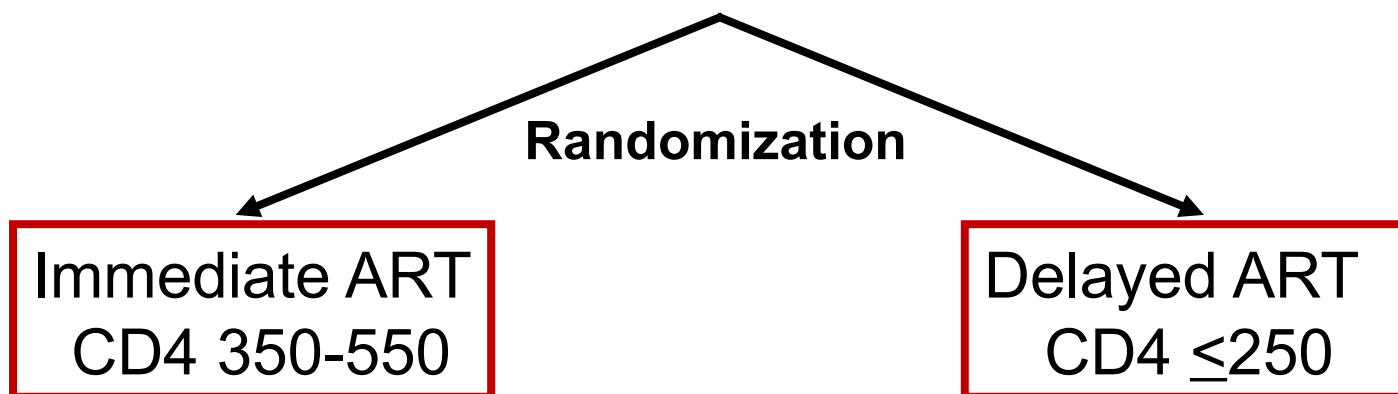


PLHIV

- 👁️ Lift of the fear of being a life long danger to others
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HPTN 052 Study Design

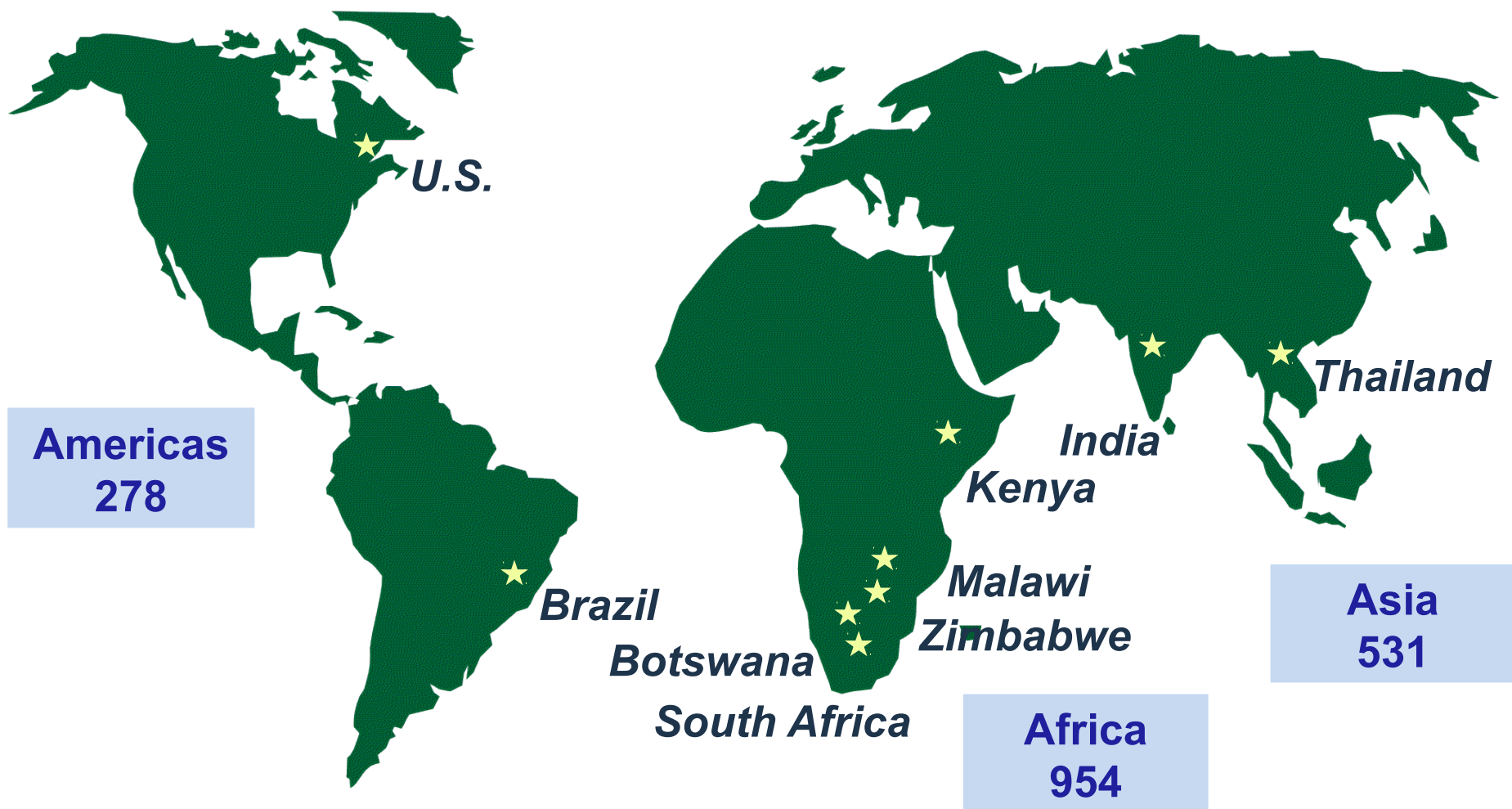
Stable, healthy, serodiscordant couples, sexually active
CD4 count: 350 to 550 cells/mm³

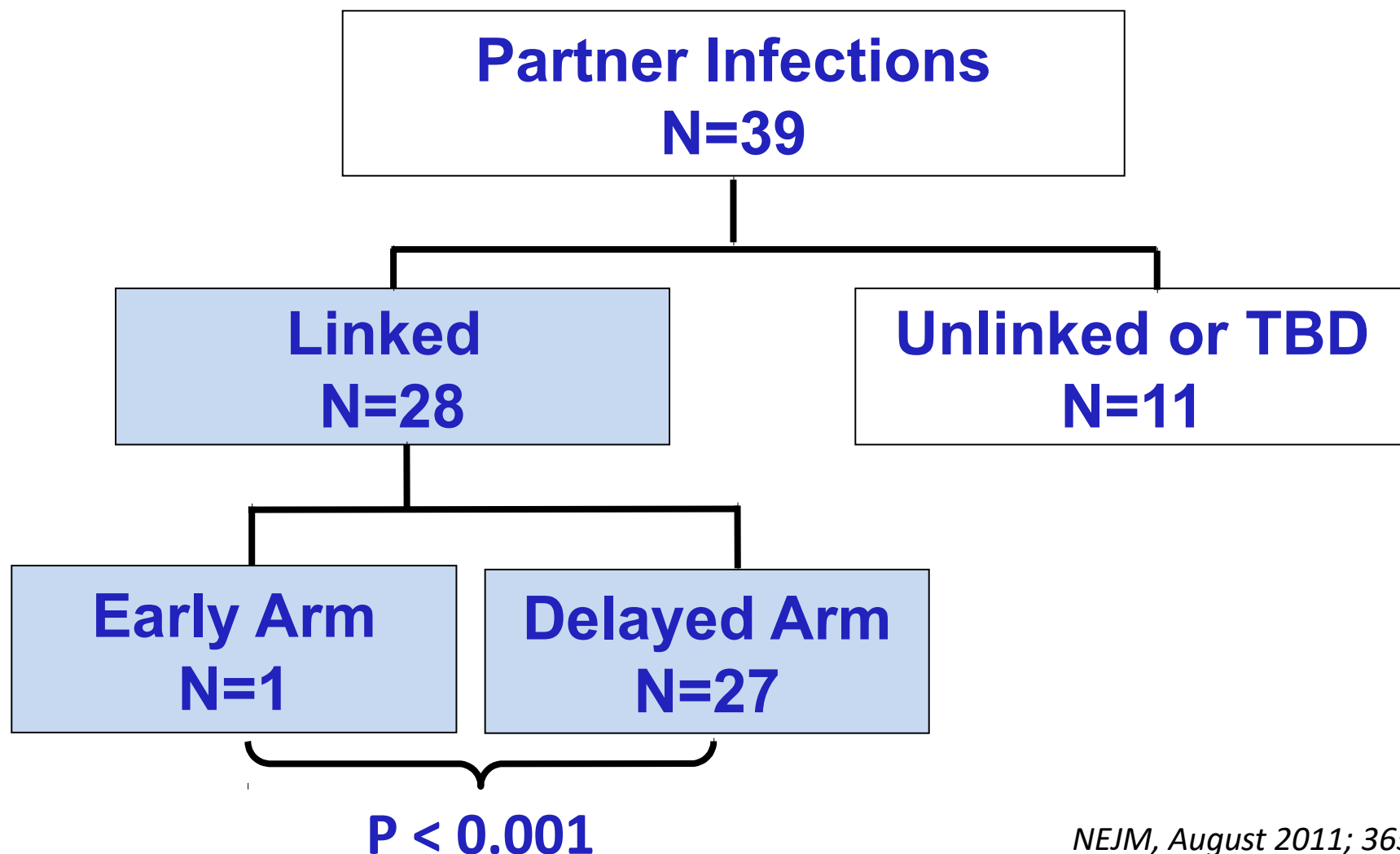


Primary Transmission Endpoint
Virally linked transmission events

Primary Clinical Endpoint
WHO stage 4 clinical events, pulmonary tuberculosis, severe bacterial infection and/or death

Total: 1,763 couples





Treatment is prevention: HPTN 052 study shows 96% reduction in transmission when HIV-positive partner starts treatment early



Prof. Myron Cohen,
University of North Carolina
©IAS/Marcus Rose/Worker's
Photos

Keith Alcorn

Published: 18 July 2011

Jump to

- [Results](#)
- [Reactions](#)
- [Further information](#)
- [References](#)

Results from a trial showing that antiretroviral treatment prevents HIV from being passed onto uninfected partners received a standing ovation today at the [Sixth International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention \(IAS 2011\)](#) in Rome.

HPTN 052 showed that early treatment – started at a CD4 count between 350 and 550 cells/mm³ – reduced the risk of HIV transmission to an uninfected partner – by at least 96%. Almost all the study participants were heterosexual couples.

The Economist



June 4, 2011



23 December 2011 | \$10

Science

BREAKTHROUGH OF THE YEAR

HIV Treatment as Prevention

AAAS

No HIV infections from partners with fully suppressed viral load during long-term follow up of landmark treatment as prevention trial



Myron Cohen at IAS 2015.
Photo ©Steve
Forrest/Workers' Photos/IAS

Keith Alcorn

Published: 21 July 2015

Jump to

- [Timing of infections shows window of risk in weeks after starting treatment](#)
- [References](#)

Final follow up of the HPTN 052 study of treatment as prevention shows no evidence of HIV transmission from people with fully suppressed viral load to their partners, four years after the first results from the study demonstrated that early HIV treatment reduced the risk of HIV transmission by 96%. These results were presented by Professor Myron Cohen at the [Eighth International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention \(IAS 2015\)](#) in Vancouver, Canada, on Monday.

The NEW ENGLAND
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Established in 1812

July 18, 2016

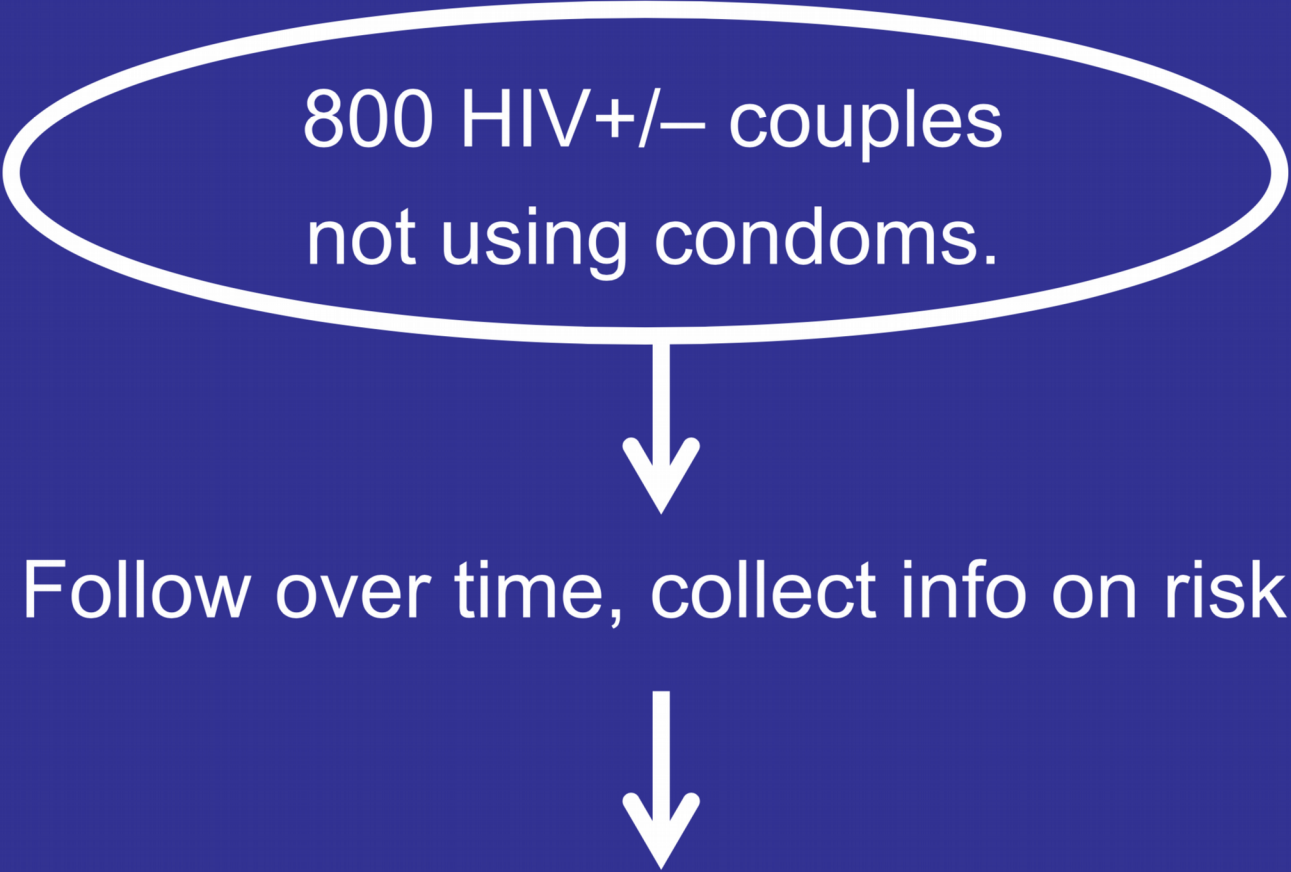
Vol. 374 No. 22

Antiretroviral Therapy for the Prevention
of HIV-1 Transmission

M.S. Cohen, Y.Q. Chen, M. McCauley, T. Gamble, M.C. Hosseinipour,
N. Kumarasamy, J.G. Hakim, J. Kumwenda, B. Grinsztejn, J.H.S. Pilotto,
S.V. Godbole, S. Chariyalertsak, B.R. Santos, K.H. Mayer, I.F. Hoffman,
S.H. Eshleman, E. Piwowar-Manning, L. Cottle, X.C. Zhang, J. Makhema,
L.A. Mills, R. Panchia, S. Faesen, J. Eron, J. Gallant, D. Havlir, S. Swindells,
V. Elharrar, D. Burns, T.E. Taha, K. Nielsen-Saines, D.D. Celentano, M. Essex,
S.E. Hudelson, A.D. Redd, and T.R. Fleming, for the HPTN 052 Study Team*

PARTNER study

800 HIV+/- couples
not using condoms.



```
graph TD; A([800 HIV+/- couples  
not using condoms.]) --> B[Follow over time, collect info on risk.]; B --> C[After 58,000 times without condoms:  
ZERO linked transmissions];
```

Follow over time, collect info on risk.

After 58,000 times without condoms:
ZERO linked transmissions

More confidence on zero risk: still no transmissions seen from people with an undetectable viral load in PARTNER study

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Odds of seeing a transmission now even lower, but more data still needed on gay men, say researchers



Gus Cairns

Published: 19 July 2016

The PARTNER study, which [two years ago created headlines](#) by establishing that the chance of an HIV-positive person with an undetectable viral load transmitting their virus was very low and quite possibly zero, released new data at the [21st International AIDS Conference \(AIDS 2016\)](#) that further refined this estimate.

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INFECTIOUSNESS AND TREATMENT AS PREVENTION

International study of gay couples reports no transmissions from an HIV-positive partner on treatment

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Image from Opposites Attract study:
www.oppositesattract.net.au

Gus Cairns

Published: 25 July 2017

A study of 343 gay couples, where one partner had HIV and the other did not, has not found a single case of HIV transmission in 16,889 acts of condomless anal sex, the 9th International AIDS Society Conference on HIV Science (IAS 2017) in Paris, France, was told today.

E-atlas

Australia



Find details of HIV services in Australia, the latest news from the country, and a selection of resources from local organisations.

[Find out more about Australia >](#)

E-atlas

Brazil



Find details of HIV services in Brazil

■ Αρχική ■ Ειδήσεις - Νέα ■ Περίθαλψη & Ασφάλιση

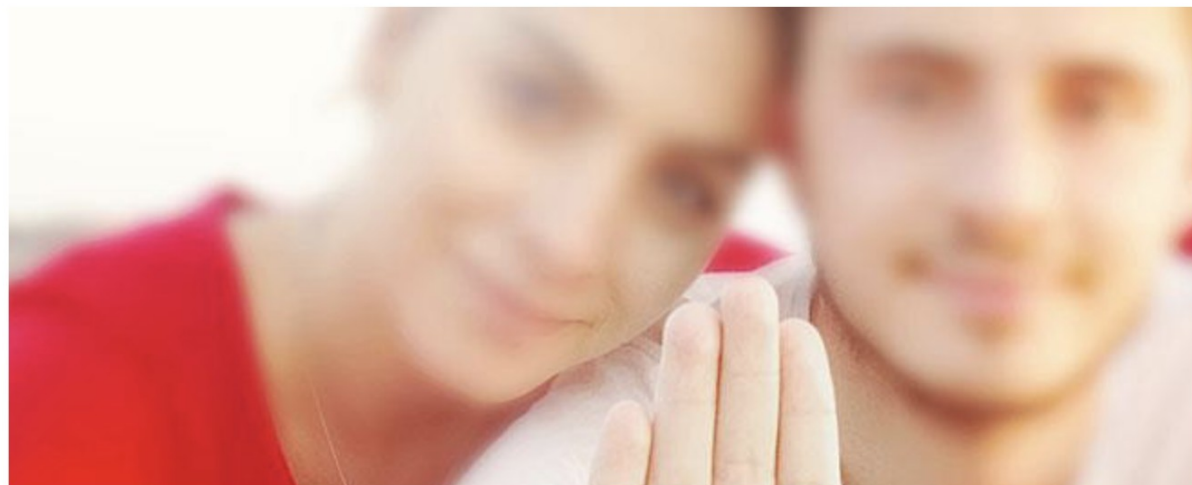
Μη ανιχνεύσιμο ιικό φορτίο καθιστά μη πιθανή τη μετάδοση του ιού HIV

Ιστορική απόφαση εξέδωσε ομόφωνα το Β' Μικτό Ορκωτό Δικαστήριο Αθηνών, υιοθετώντας για πρώτη φορά ρητά το μήνυμα της επιστημονικής κοινότητας ότι ένας άνθρωπος, θετικός στη λοίμωξη HIV που έχει μη ανιχνεύσιμο ιικό φορτίο είναι μη μεταδοτικός.

Δημοσίευση: 5 Φεβρουαρίου 2018

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Μου αρέσει! Γίνετε ο πρώτος από τους φίλους σας που θα του αρέσει.



Ακολουθήστε μας



Προβολή



Ενδοσκοπιο Στα Παρασκήνια της Υγείας

- Επιστημονικό forum για τα νέα φάρμακα στην ογκολογία
- Τουλάχιστον δεν χάθηκε το χιούμορ
- Είναι πολλά τα λάθη...

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MEXICO: SUPREME COURT FINDS VERACRUZ LAW CRIMINALISING 'WILFUL TRANSMISSION' OF HIV AND STIS TO BE UNCONSTITUTIONAL

May 1, 2018

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FROM OTHER SOURCES

[News](#)[Cases](#)

[Update] Mexico: Victory for activists as Supreme Court in Mexico invalidates Veracruz HIV criminalisation statute

AVC Noticias – SCJN invalida artículo que castiga contagio de infecciones de transmisión sexual

April 30, 2018

US: Survivor's story shows how Michigan's criminalisation laws impact HIV positive individuals

A Hookup Gone Wrong: Michigan's HIV Criminalization Negatively Affects Michiganders

April 29, 2018

Canada: Richard Elliott, executive director of the Canadian HIV/AIDS Legal Network, urges federal and provincial Attorneys-General to follow recommendations of Justice Ministry report

[View more >](#)

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Acknowledgements

Myron Cohen

Pietro Vernazza

Simon Collins