



NORTHWEST AIDS EDUCATION AND TRAINING CENTER

Prevention with Positives

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Prevention with Positives (PwP): Overview

PRIOR TO EXPOSURE	TIME OF TRANSMISSION	TESTING/ TREATMENT
<p>Behavior change</p> <p>Vaccines</p> <p>Pre-Exposure Prophylaxis</p> <p>Sterile syringe access</p> <p>STI treatment</p> <p>Circumcision</p>	<p>Male and female condoms</p> <p>Microbicides</p> <p>Antiretroviral therapy for prevention of mother-to-child transmission</p> <p>Serosorting?</p>	<p>Antiretroviral therapy</p> <p>Post-Exposure Prophylaxis</p> <p>Expanded testing</p> <p>Partner Counseling and Referral Services</p>

Clinical Trial Evidence for Prevention

Study

Treatment for prevention

(Africa, Asia, America's)

PrEP for discordant couples

(Partners PrEP)

PrEP for heterosexuals

(Botswana TDF2)

Medical male circumcision

(Orange Farm, Rakai, Kisumu)

PrEP for MSMs

(America's, Thailand, South Africa)

STD treatment

(Mwanza)

Microbicide

(CAPRISA 004 tenofovir gel)

HIV Vaccine

(Thai RV144)

Effect size (CI)

96% (73; 99)

73% (49; 85)

63% (21; 48)

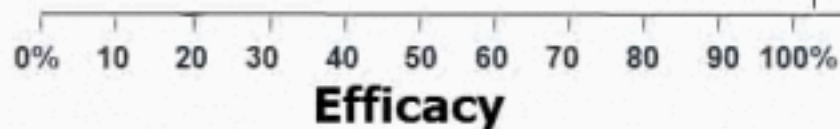
54% (38; 66)

44% (15; 63)

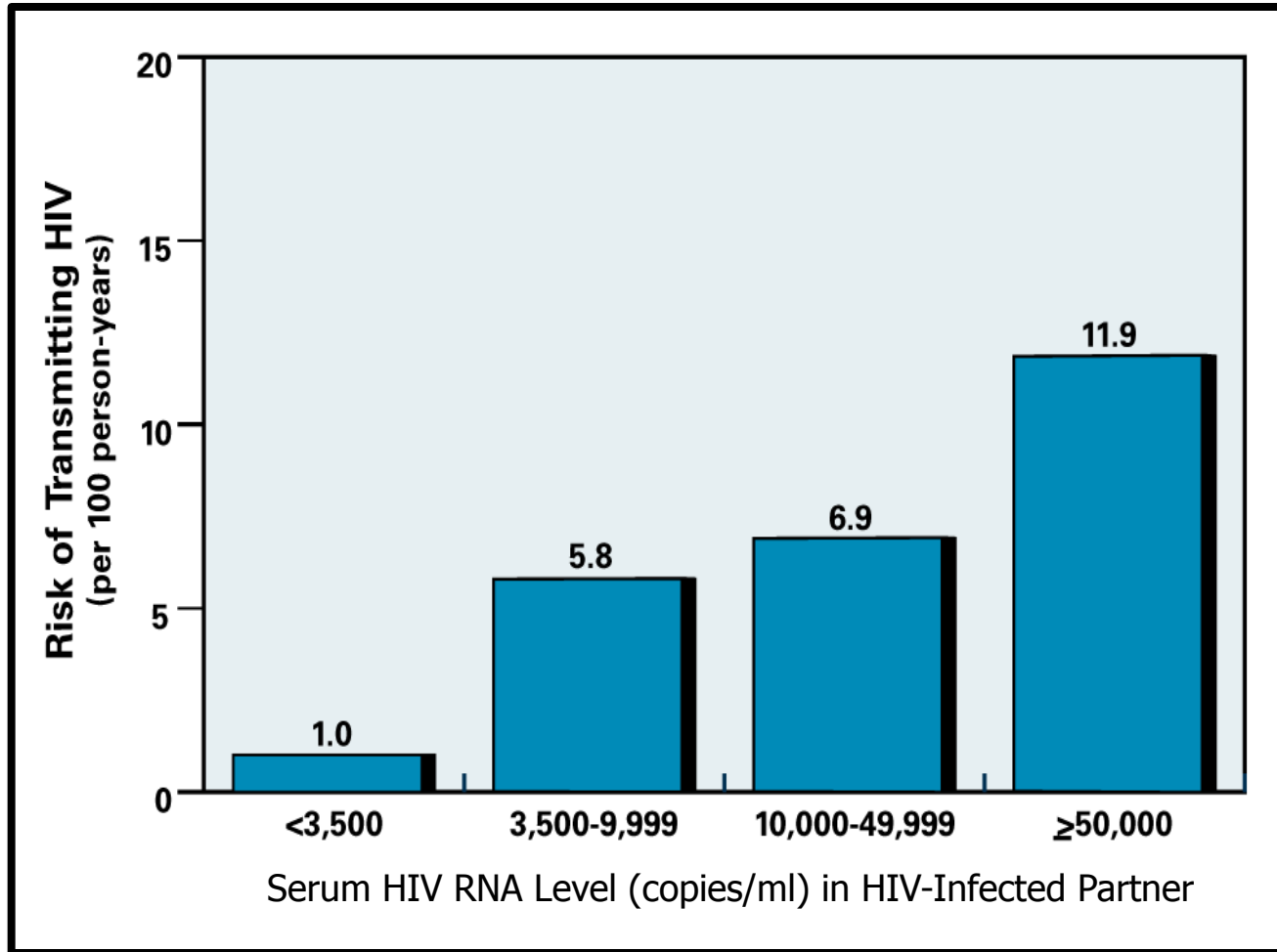
42% (21; 58)

39% (6; 60)

31% (1; 51)



Serum HIV RNA Level & Risk of Transmission



ART for Prevention

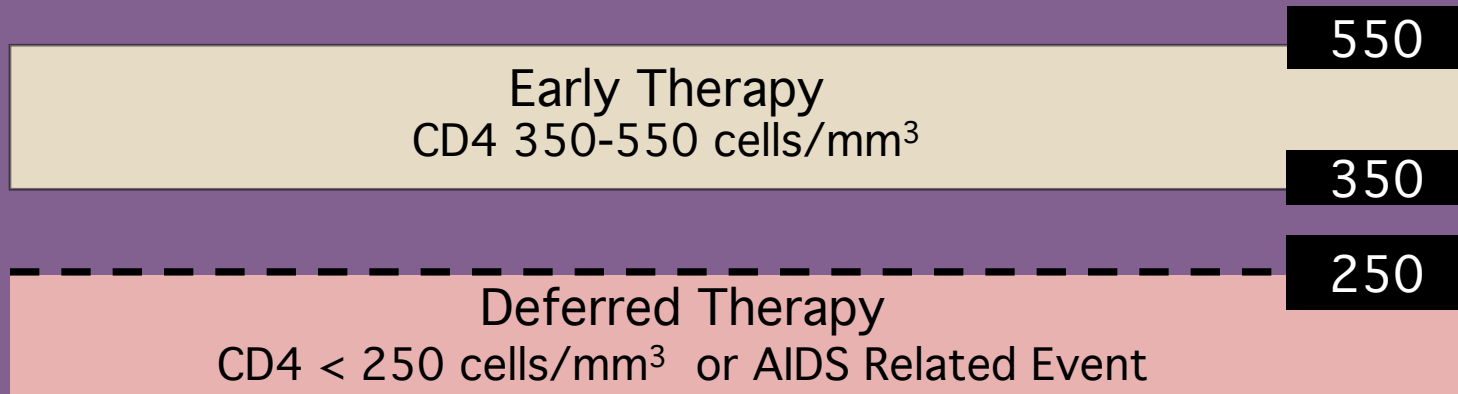


ART for Prevention: HPTN 052

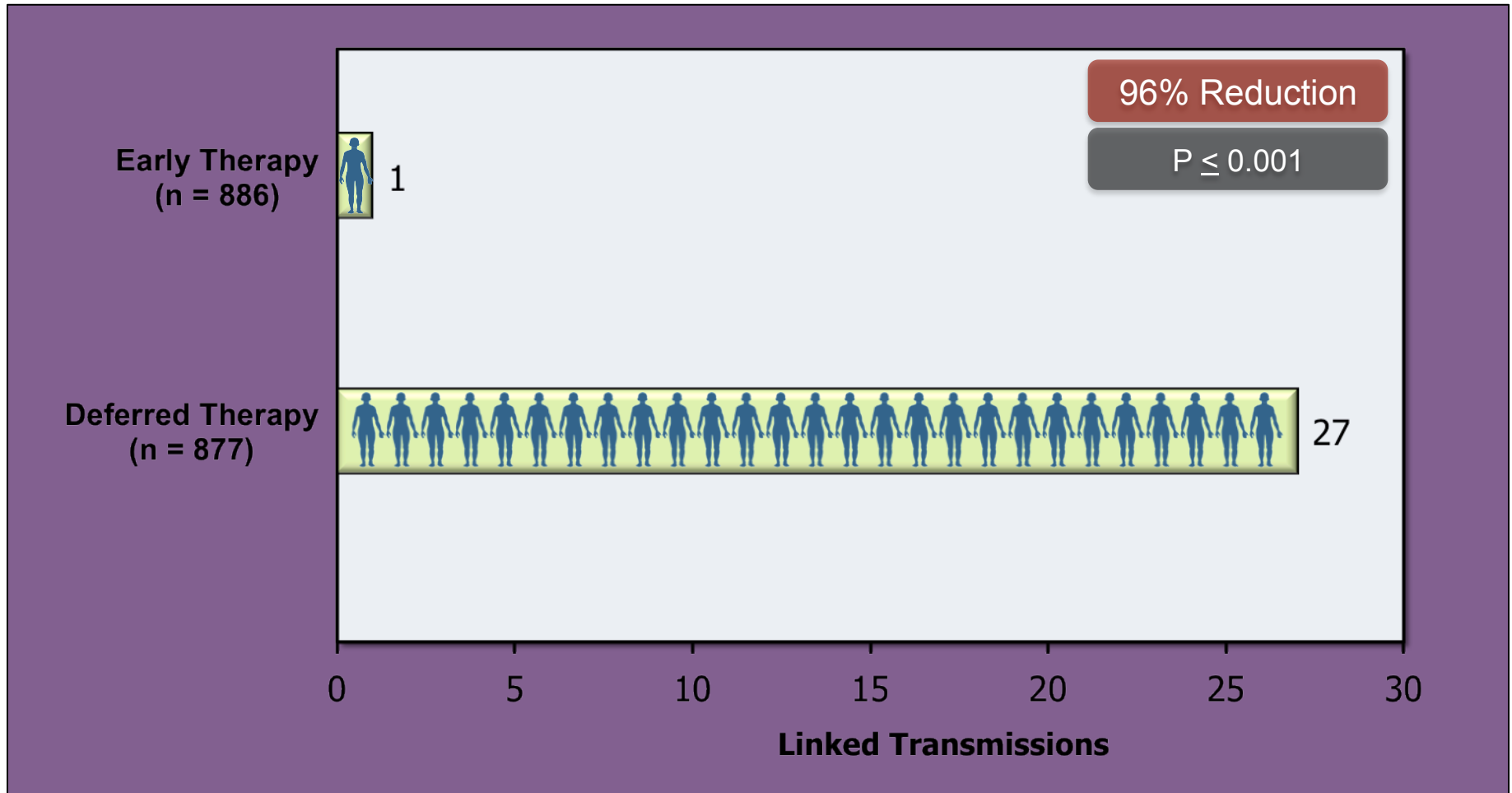
Study Features

N = 1,763 HIV-serodiscordant couples
Location: 13 sites (international); 54%
from Africa
Enrollment CD4 ct: 350-550 cells/mm³

Genetic analysis of HIV transmissions for
linkage
All received safe sex counseling, free
condoms
All received STI treatment and regular
HIV testing



ART for Prevention: HPTN 052



ART for Prevention: HPTN 052

Conclusion: “The early initiation of antiretroviral therapy reduced rates of sexual transmission of HIV-1 and clinical events, indicating both personal and public health benefits from such therapy.”

Male Circumcision



PwP: Medical Male Circumcision

- 3 large randomized trials >10,000 men in Africa
- Decreased male heterosexual HIV acquisition by 50-60%
- Data from studies including MSM lacking

Source: Gray RH. Lancet 2007
Bailey RC. Lancet 2007
Auvert B. PLoS Med 2005

PwP: Medical Male Circumcision

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™

FROM THE AMERICAN ACADEMY OF PEDIATRICS

Organizational Principles to Guide and Define the Child
Health Care System and/or Improve the Health of all Children

POLICY STATEMENT

Circumcision Policy Statement

Although health benefits are not great enough to recommend routine circumcision for all male newborns, the benefits of circumcision are sufficient to justify access to this procedure for families choosing it and to warrant third-party payment for circumcision of male newborns. It is important that clinicians routinely inform parents of the health benefits and risks of male newborn circumcision in an unbiased and accurate manner.

Vaginal Microbicides



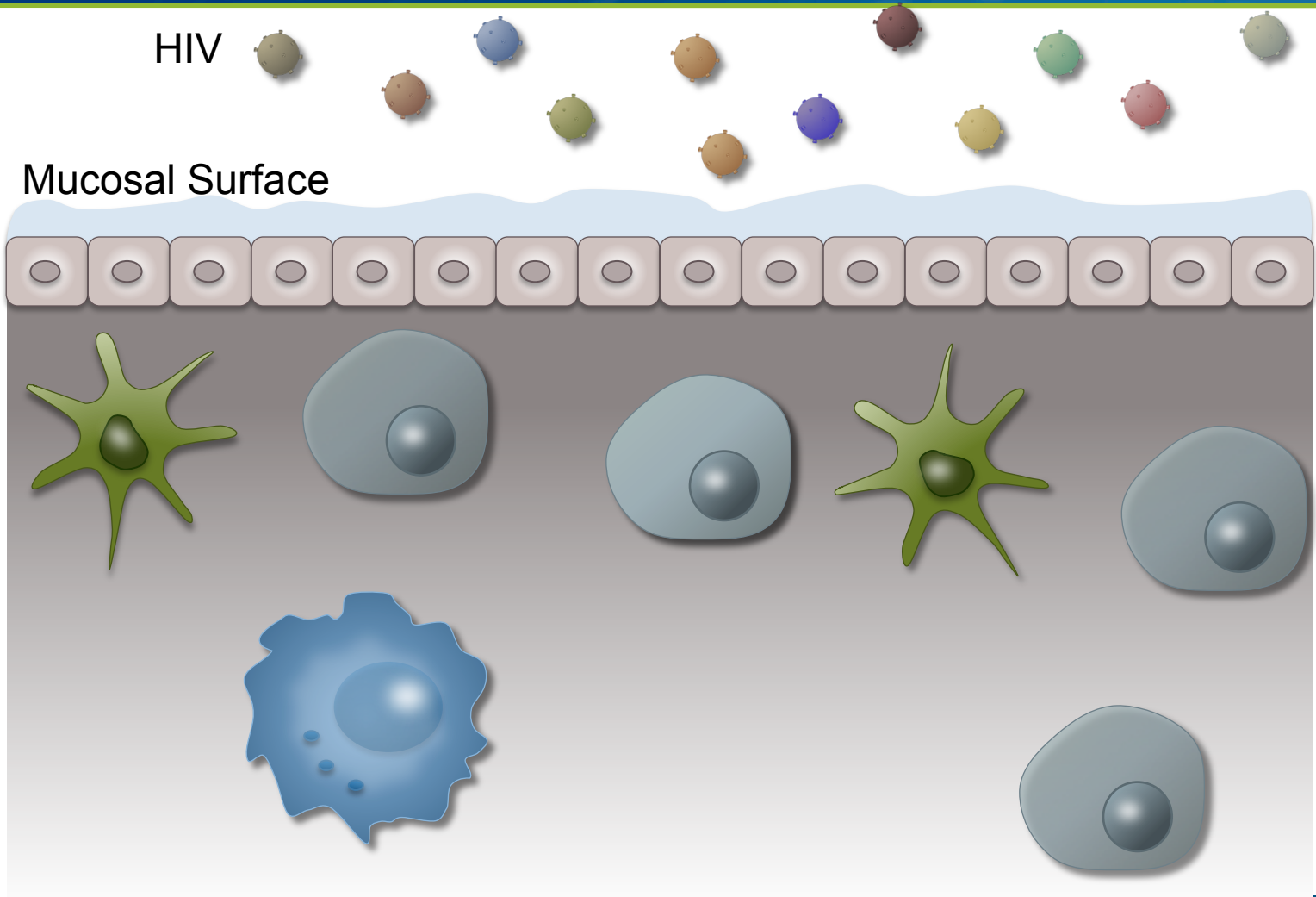
PwP: Vaginal Microbicides

- Established antiretroviral agent
- Good safety profile
- Rapid absorption
- Long half-life
- Low systemic absorption
- Evidence in monkey studies in preventing SIV

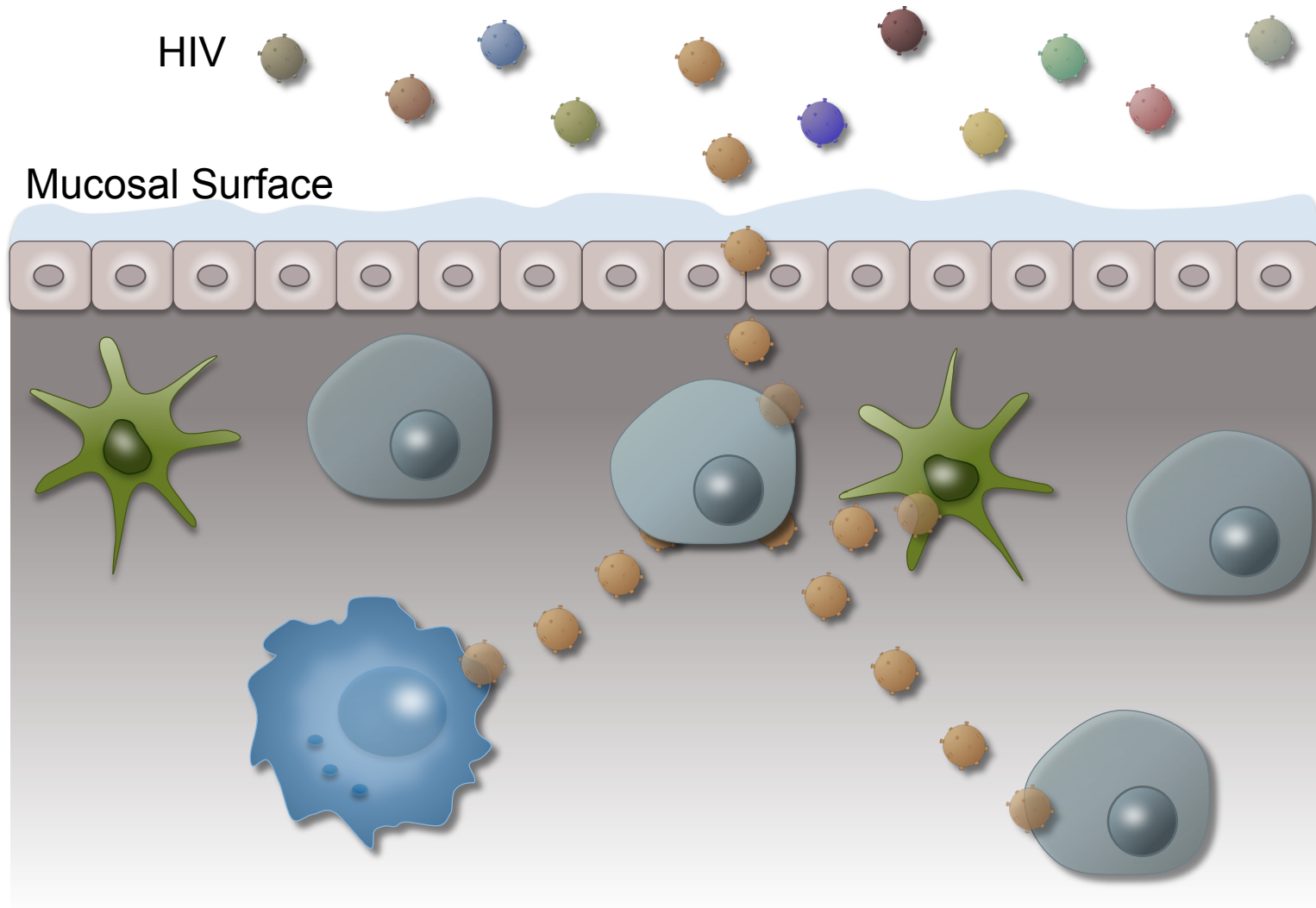
Sexual Transmission of HIV

HIV

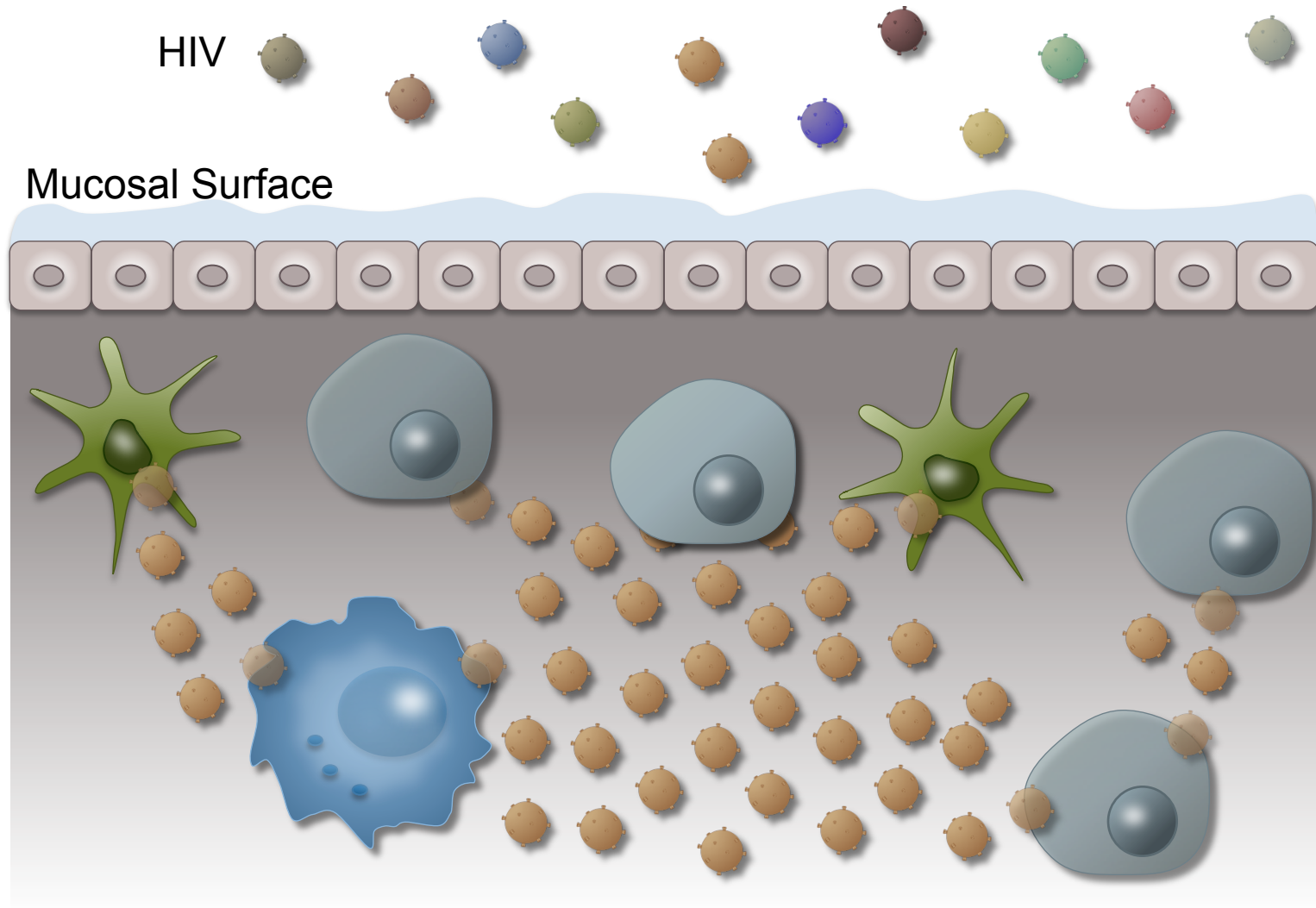
Mucosal Surface



Sexual Transmission of HIV

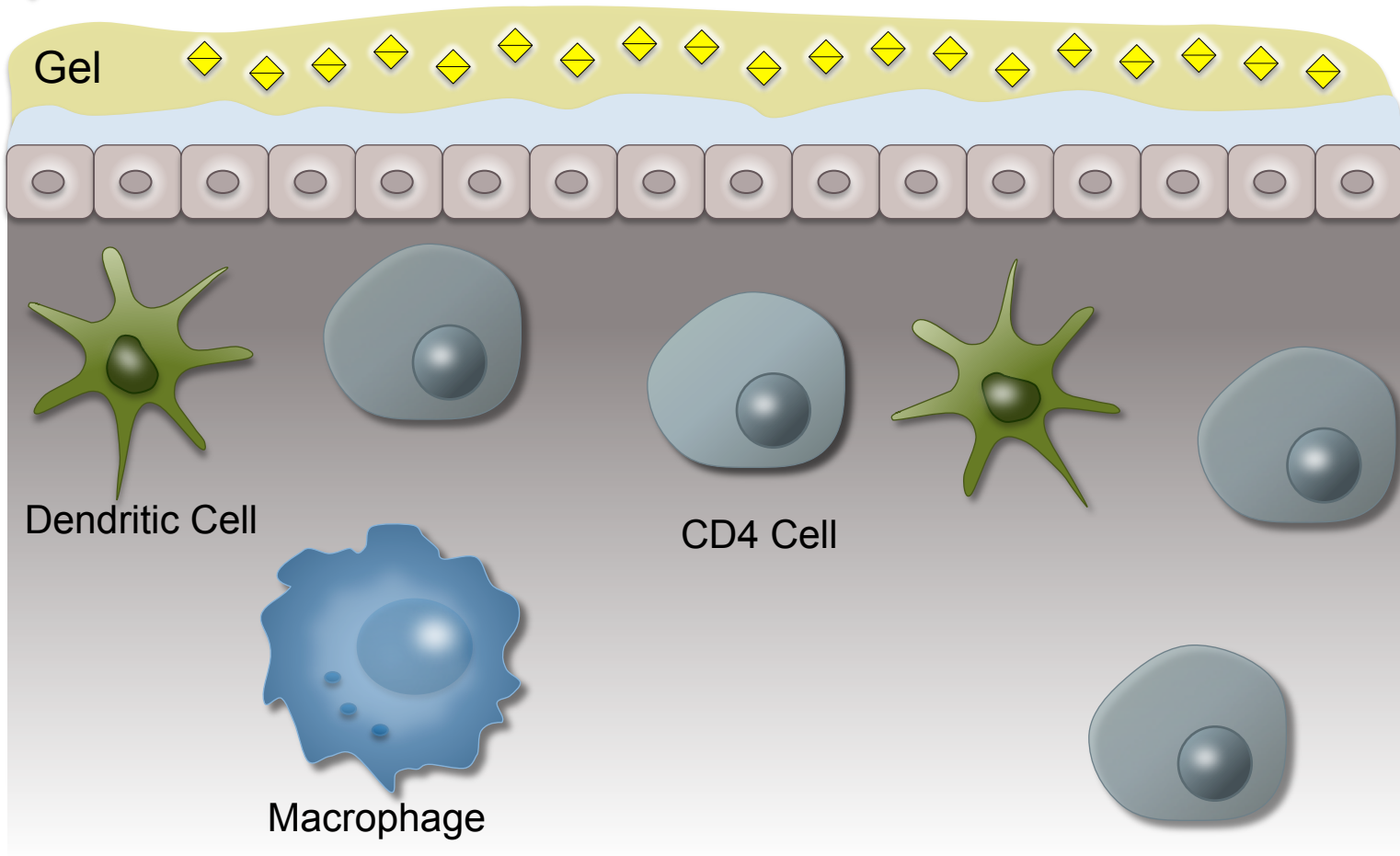


Sexual Transmission of HIV



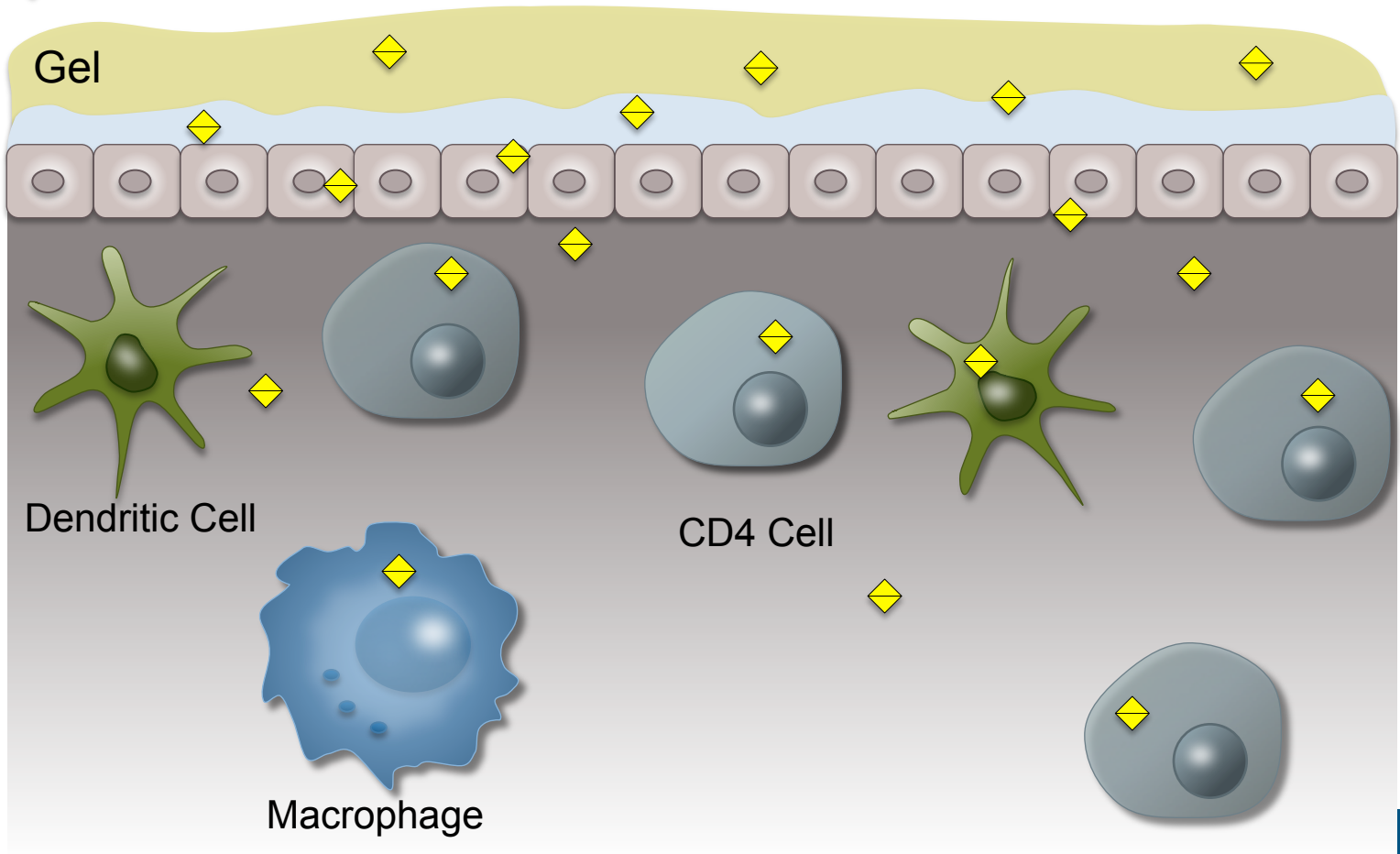
Topical Tenofovir Gel

◆ Tenofovir

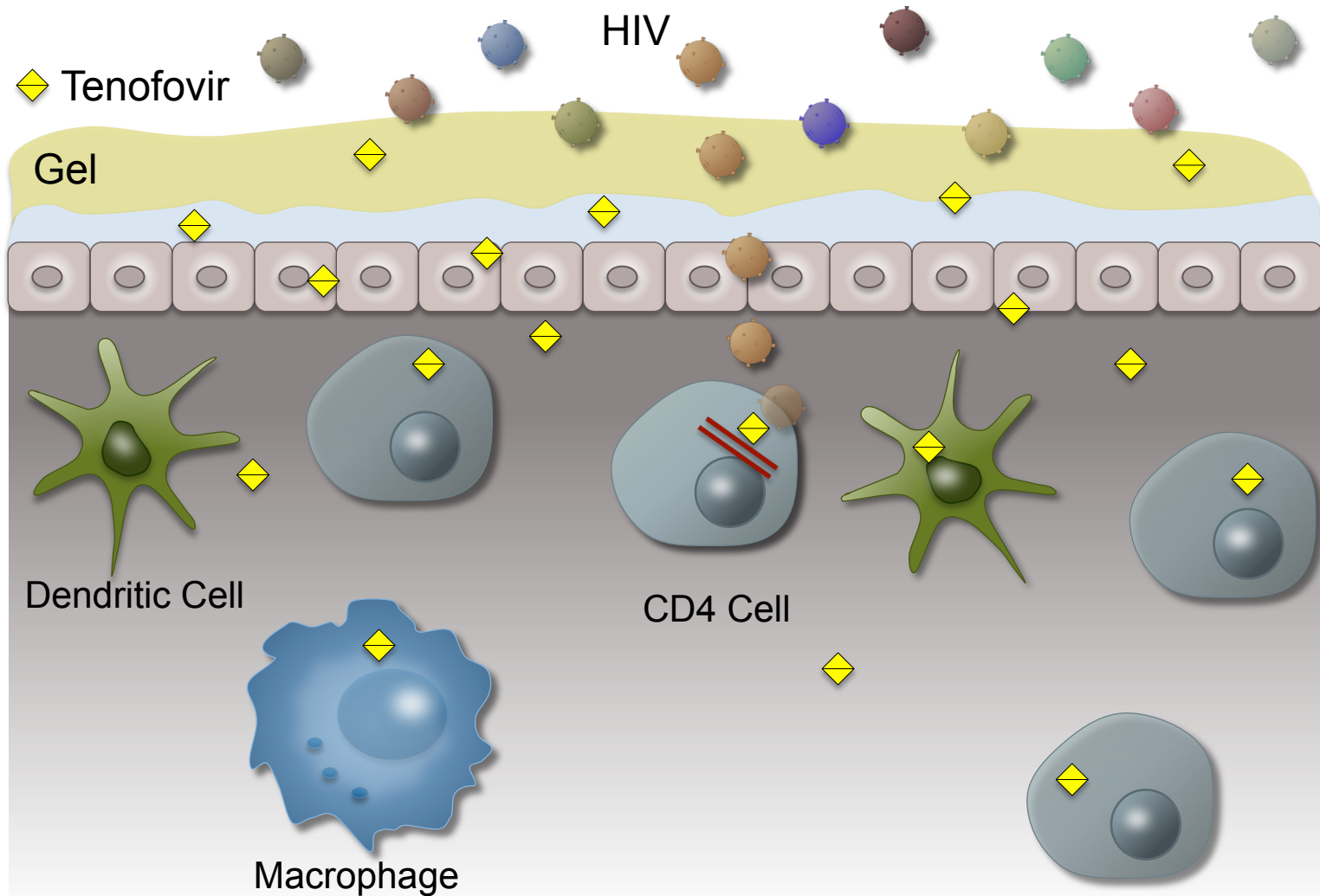


Topical Tenofovir Gel

◆ Tenofovir



Topical Tenofovir Gel

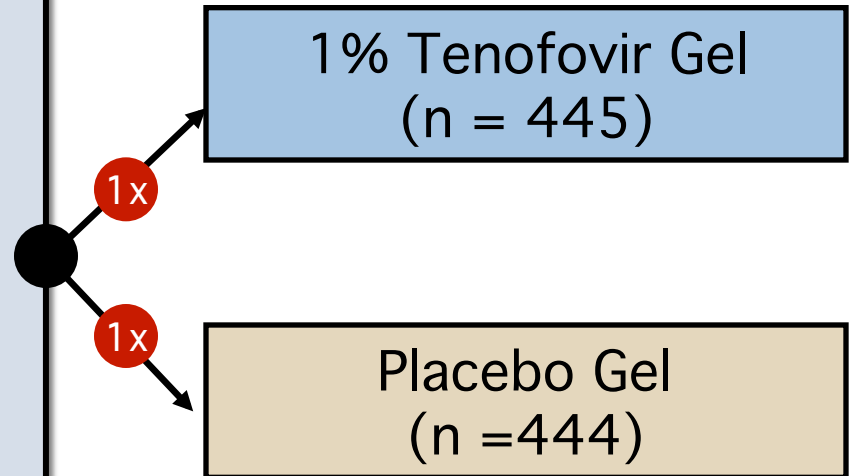


Topical Tenofovir Gel

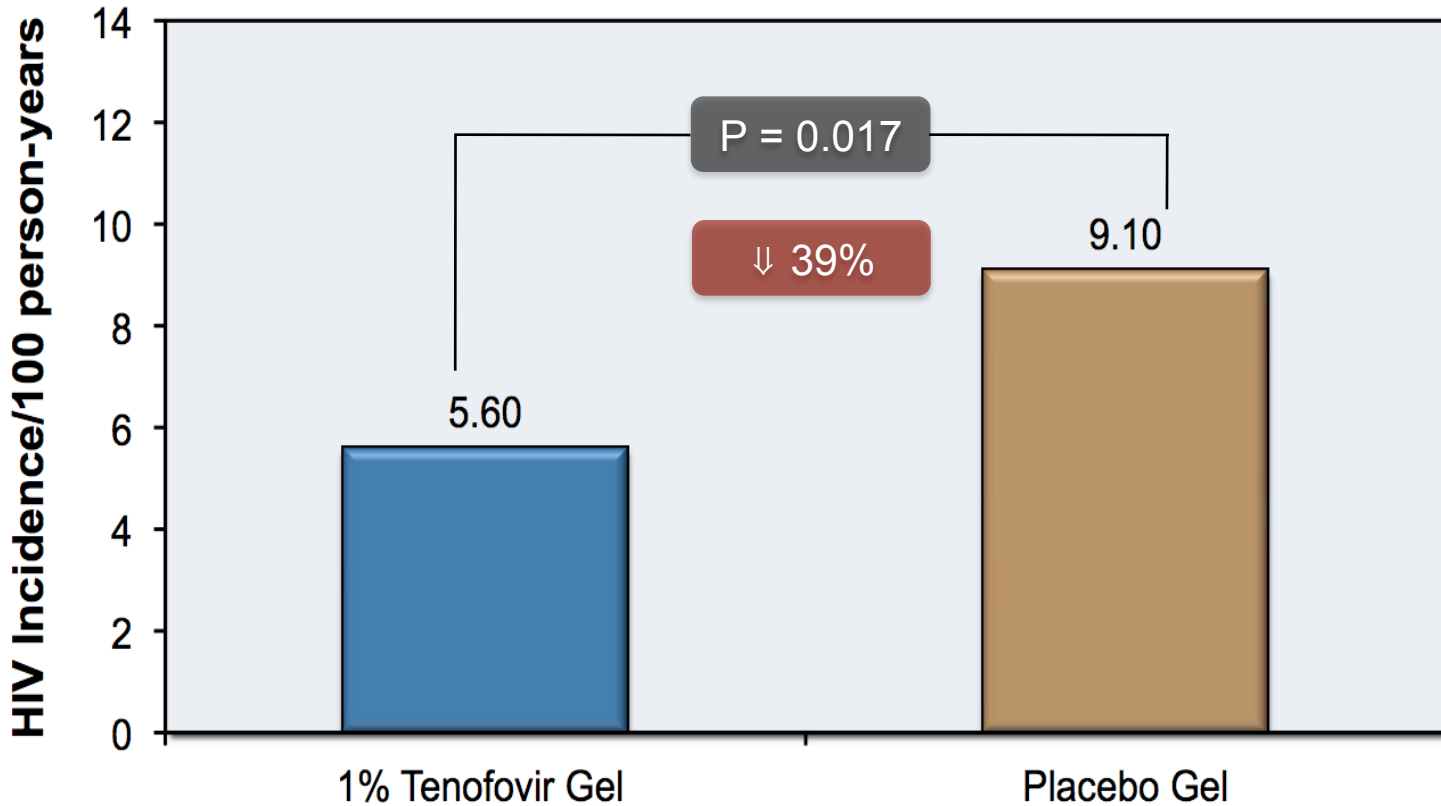
Study Features

Protocol

- Randomized, placebo-controlled, double blinded, proof-of-concept
- Phase IIb trial
- N = 889 rural & urban South African women
- Age 18-40
- Sexually active (vaginal sex $\geq 2x$ in prior 30d)
- Women high risk, but NOT HIV-infected
- Randomized to one of two arms
- Before sex dose: gel applied before sex
- After sex dose: ASAP (within 12 hours)
- Maximum: 2 doses of gel in a 24 hour period
- Follow-up: 30 months

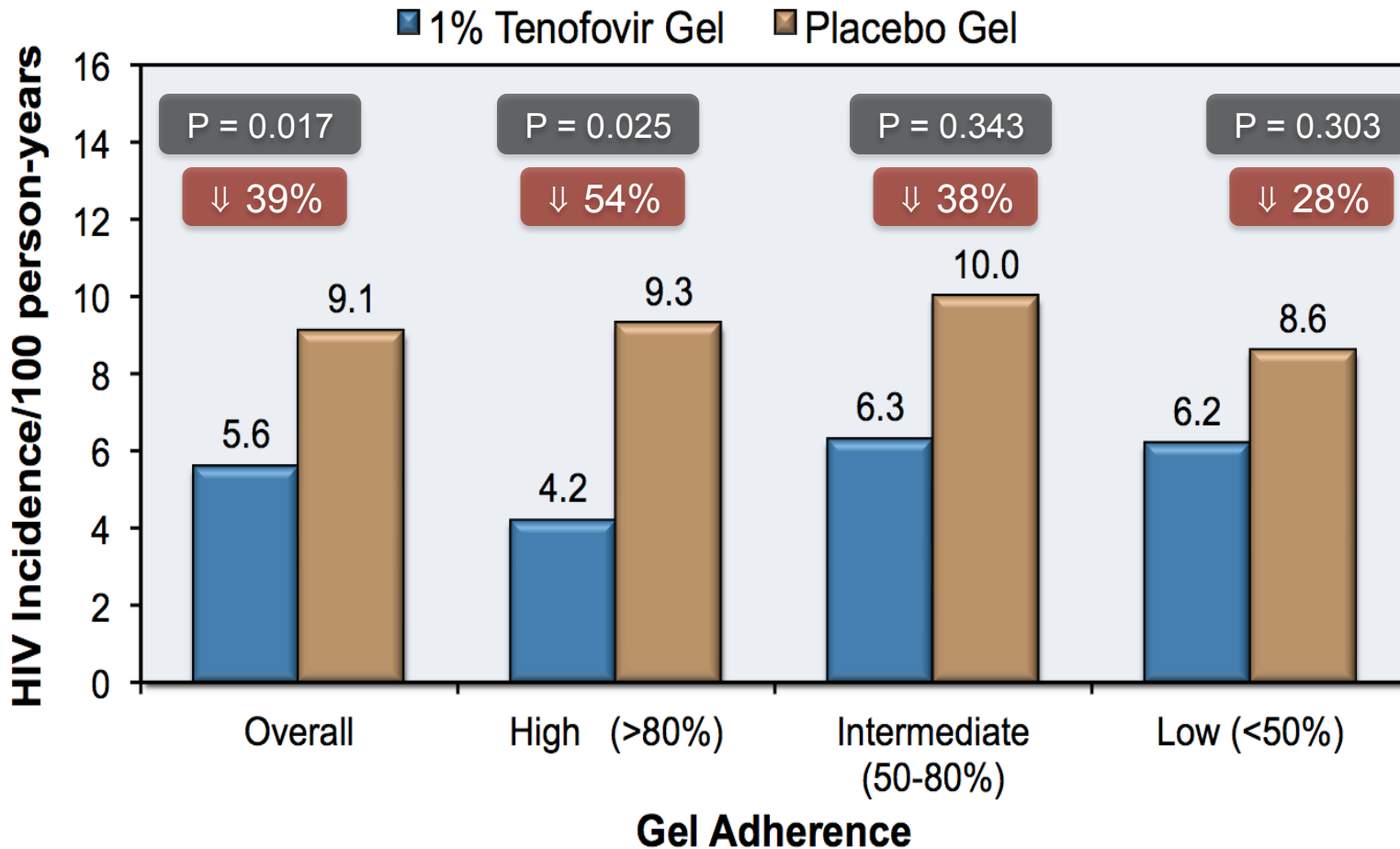


Topical Tenofovir Gel



Incidence Rate Ratio = 0.61

Topical Tenofovir Gel



Topical Tenofovir Gel

Conclusion: “Tenofovir gel reduced HIV acquisition by an estimated 39% overall, and by 54% in women with high gel adherence. Tenofovir gel could potentially fill an important HIV prevention gap, especially for women unable to successfully negotiate mutual monogamy or condom use.”

Prevention Messages



Incorporating Prevention into HIV Care

- Most people who are aware of their HIV infection are practicing safer sex
- “Every HIV transmission event involves a person already HIV infected” (IOM)
- Those living with HIV are fewer in number and easier to define than those at risk
- Most HIV+ persons have contact with healthcare system
- Better prevention services to HIV+ will improve their health outcomes

Prevention = Care

Prevention Counseling

- Focused on HIV risk reduction
- Include in-depth, personalized risk assessment
- Acknowledge and support positive steps already made
- Clarify critical misconceptions about HIV risk
- Set concrete, realistic safer behavior goals that will reduce risk of acquiring or transmitting HIV
- Develop action steps to achieve these safer goals
- Seek flexibility in counseling, avoid a 'one-size-fits-all' approach

Discussing Prevention: Behavioral Changes

- Disclosure
- Serosorting
- Sero-positioning
- Use of clean needles

Serosorting

- **Imperfect prevention strategy:**
15- 30% of new HIV cases occurring among MSM who report having UAI only with reportedly HIV negative sex partners
- **Serosorting does not prevent new bacterial STDs**

PwP: Summary

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