



Male Circumcision: A New Approach to HIV Prevention

- **Male circumcision reduces HIV transmission from women to men by approximately 60%.**
- **Men who have been recently circumcised must abstain from sex until the wound has completely healed.**
- **Male circumcision should be performed by trained personnel under hygienic conditions.**
- **Male circumcision is only partially protective. MC services must be accompanied by appropriate counseling and communication messages, including ABC (Abstain, Be Faithful/Reduce Number of Sexual Partners, Condom Use).**

Background on Topic

Since the 1980s, researchers have noted that circumcised men were less likely to be infected with HIV than uncircumcised men. Ecological data also supported this observation; in West Africa, where male circumcision (MC) is common, HIV prevalence is much lower than in Southern Africa, where MC is uncommon¹.

Three randomized, controlled trials have now confirmed that MC reduces the likelihood of female to male HIV transmission by approximately 60%. All three trials were halted early because MC was so effective in preventing HIV transmission that it was considered unethical to withhold circumcision from the control groups^{2,3,4}.

Biological research suggests that MC is effective at preventing male acquisition of HIV because the prepuce (foreskin) contains many Langerhans cells. Langerhans cells, among others, are immune cells that are targeted by HIV. By removing these cells, it becomes more difficult for HIV to find an entry point into the body⁵. Also, MC reduces the risk of genital ulcer disease which is a co-factor for HIV transmission, and reduces the likelihood of penile trauma during intercourse which could affect susceptibility to HIV.

It is not known whether MC also reduces the likelihood of HIV transmission from men to women. HIV-infected men who resume sexual intercourse before the wound is healed may be more likely to transmit the virus to their partner(s). It is essential that newly circumcised men, whether HIV-positive or HIV-negative, abstain from sex until the wound has completely healed (usually 4 to 6 weeks).

It is also not known whether MC is protective during anal sex. It may provide some protection to the insertive partner, although it is not likely to confer much benefit to the receptive partner. MC may not provide a significant public health benefit in countries whose epidemics are concentrated among men who have sex with men or injecting drug users. However, there may be specific cases in which MC can be beneficial in these countries; for example, in discordant heterosexual couples in which the woman is HIV-positive and the man is HIV-negative.

WHO and UNAIDS Endorse Male Circumcision for HIV Prevention

On 28 March 2007, the World Health Organization and UNAIDS issued guidance on MC for HIV prevention. WHO and UNAIDS urged countries with high HIV prevalence, where transmission is primarily heterosexual, and where most men are not currently circumcised, to seriously consider promoting MC as an HIV prevention intervention.



Programmatic Considerations

While MC is a promising intervention that could potentially prevent millions of new HIV infections, it is important to keep in mind that it is a surgical procedure. Like any surgery, MC has risks and benefits. Safe MC services require well-trained healthcare providers and appropriate infection prevention and control practices.

In order for MC to have a public health impact on the HIV epidemic, health systems in low- resource settings, particularly in sub-Saharan Africa, need to be strengthened in order to massively scale-up safe MC services provided by skilled clinicians and include informed consent, quality counseling and a minimum package of other male reproductive health services, such as provider-initiated HIV counseling and testing, STI treatment, and condom distribution.

It is essential that MC programs communicate to potential clients and communities that MC is only partially protective; men need to take other steps, such as abstinence, partner reduction, and/or condom use, in order to protect themselves and their partners from HIV infection. Likewise, it is important to communicate that being uncircumcised is not an indication of being HIV positive. Programs that implement MC for HIV prevention need to carefully monitor for possible negative behavioral consequences of MC, such as an increase in risk behaviors because of a false belief that circumcised men cannot become infected (called disinhibition or risk compensation).

Lessons Learned

The three randomized clinical trials did not find evidence of extensive risk compensation among newly circumcised men. However, all participants in the trials were extensively counseled. Monitoring of “real world” MC programs is needed to see whether risk compensation is higher in settings where men receive less counseling.

To date there are relatively few MC programs outside of research trials. In areas where demand for MC is high, programs face challenges due to shortages of supplies and of skilled providers to provide the procedure, counseling, and associated male reproductive health services. In order to scale up MC for HIV prevention, programs must effectively address these challenges.

¹Weiss, H., Quigley, M. & Hayes, R. (2000). Male circumcision and risk of HIV infection in Sub-Saharan Africa: a systematic review and meta-analysis. *AIDS* 2000 V 14, P 2361-2370.

²Auvert, B, Taljaard, D., Lagarde, E., Sitta, R., Tambekou, J. (2005). Randomized controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 trial. *PLoS Med* V 2 p 1-11

³Bailey, R., Moses, S., Parker, C., Agot, K., Maclean, I., Krieger, J., Williams, C., Campbell, R. & ONdinya-Achola, J. (2007.) Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomized controlled trial. *The Lancet* V364 p. 643-656.⁴Gray, R., Serwadda, D, Makumbi, F., Watya, S., Nalugoda, F., Kiwanuka, N., Moulton, L., Chaudhary, M., Chen, M., Sewankambo, F. Bacon, M., Williams, F., Opendi, P, Reynolds, S., Laeyendecker, Quinn, T. & Wawer, M. (2007). Male circumcision for HIV prevention in men in Rakai Uganda: a randomized trial. *The Lancet* V 369 p. 657-666.

⁵Patterson et al. *American J. of Pathology* 2002; 161:867-873.

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