

Science Fact or Science Fiction:

Could Circumcision Really Prevent AIDS?

by Norm Cohen, Director, NOCIRC of Michigan

AIDS has been a major fear of sexually active people worldwide. The claim that circumcision might somehow prevent it has been widely circulated in the popular media and in medical journals. This news may seem quite surprising to Americans, who have circumcised long before AIDS became an epidemic in the United States. In South Africa, however, with an HIV infection rate 31 times that of the United States, this proposal is being taken seriously.¹

In a Class All By Itself

As a preventative, circumcision is in a class all by itself. Circumcision is the only surgery in history ever recommended as a universal means of preventing disease. Nowhere else in medicine is surgery on a healthy organ considered an alternative to proper hygiene.

The extraordinary history of circumcision as a medical panacea, and as ancient religious and tribal rites, strongly suggests that latter-day claims in favor of circumcision should be regarded with a high degree of skepticism. For 140 years, circumcision has been proposed as a solution to the most frightening diseases of the times. Over 30 different diseases have been supposedly prevented or cured by circumcision.² These diseases have included “masturbation insanity,” syphilis, gonorrhea, penile cancer, cervical cancer, urinary tract infections, and now AIDS.

Each time, evidence was subsequently produced—but not widely publicized—that negated the claim. It is from this historical context that calls for *circumcization* (mass circumcisions) to prevent AIDS in Africa should be examined.

Whenever a lack of scientific understanding of ills associated with the penis is combined with the urgency of fear, the circumcision proposition finds fertile ground. Since there has not been much success in reducing the AIDS epidemic in Africa, it is very tempting to believe in quick fixes and miracle cures. Ironically, this proposal may negate any protective effects claimed by accepting risky sexual behavior as the status quo and by encouraging circumcisions in unsterile conditions.

Here are the main arguments that explain why circumcision to prevent AIDS is not good public health policy and should not be taken seriously:

A Study in Contradictions

When presented with a proposed solution, a test of the solution should be made in populations other than those used to promote the solution to check for consistent results. Proposals that fail this test are inevitably bad science, no matter how fancy a study appears to be.

The proposal that circumcision prevents HIV infection fails this test. Of the 35 observational studies included in a stringent review, 16 gave inconsistent results for the general population.³ At least 20 published observational studies do not show support for circumcision in preventing HIV infection.

All of the randomized controlled trials of circumcision were limited to three countries in southern Africa. Researchers detected an annual HIV incidence rate in *circumcised* men over 6 times higher than the annual incidence rate for African-American men in the United States.⁴ Due to this “success”, they stopped the trials early.

The probable mode of transmission for HIV (e.g. heterosexual sex) is often reported when a new infection is reported. The World Health Organization estimates that heterosexual sex has accounted for 75% of the HIV infections in adults worldwide.⁵ Heterosexual intercourse has been the dominant route of transmission in Africa, Asia, South America, Central America and the Caribbean. In Western Europe, more than half were acquired during heterosexual intercourse.⁶ In the United States, one-third of HIV infections are transmitted through heterosexual contacts.⁷

The circumcision status of a man is not normally reported when a new infection is reported. Therefore, it is difficult to make estimates of the numbers of circumcised men who acquired the infection from heterosexual sex.

For the purpose of a worldwide estimate, and lacking other data, we will use the claim by researchers that there is roughly a 50% reduction in the incidence of HIV infection among circumcised men.⁸ The estimates of adult males who are already circumcised is 62% in Africa⁹, 75% in the United States¹⁰, and 20% in the rest of the world¹¹.

So even if circumcision reduced the risk of HIV infection by 50%, over *3.5 million circumcised men worldwide are living with an HIV infection* that they acquired through heterosexual sex. This hardly qualifies circumcision as an AIDS vaccine!

The rate of circumcision and the prevalence of HIV infection in the United States are the highest among all developed nations. Over 450,000 circumcised American men have been infected with HIV from sex since the epidemic began.¹² Regional differences in American circumcision rates don't match up with regional differences in the prevalence of HIV infections. No studies of men in the United States have been able to demonstrate a correlation between heterosexually acquired HIV infection and the presence of a foreskin.

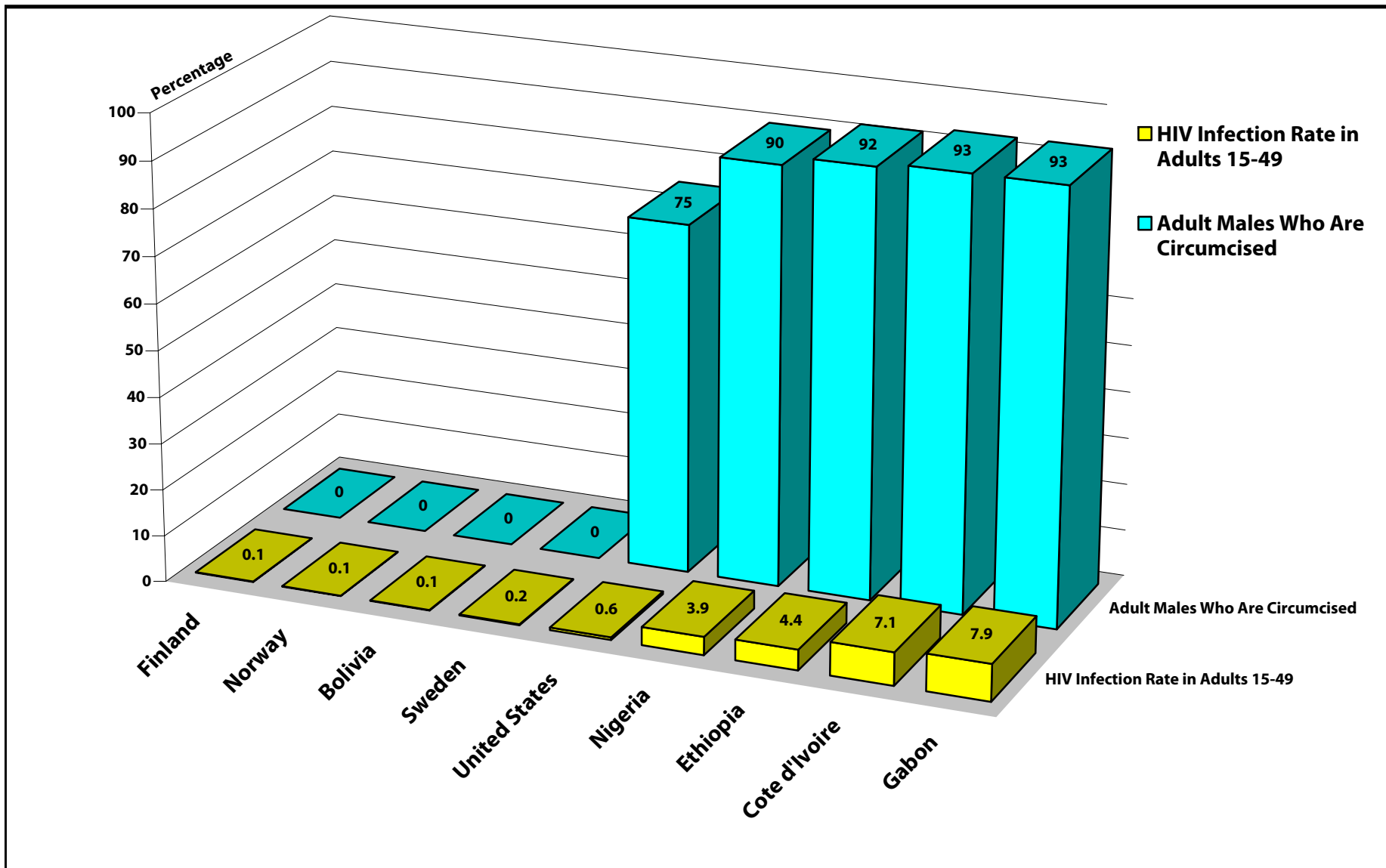
The Xhosa people of South Africa circumcise, while the Zulus do not. However, both tribes have the same HIV prevalence.¹³ In Ethiopia, 93% of the men are circumcised.¹⁴ In Uganda, 25% of the men are circumcised.¹⁵ However, both countries have the same HIV prevalence. In Cote d'Ivoire and Gabon, 93% of the men are circumcised, but the HIV prevalence is even higher in those countries than in Ethiopia.

In Lesotho, Africa the HIV prevalence rate is substantially higher among circumcised men (23%) than among males who are not circumcised (15%).¹⁶

The lowest rates for all sexually transmitted diseases, including AIDS, remains the Scandinavian nations, where circumcision is virtually unknown.

On the graph that follows there are several countries that contradict the claim that circumcision prevents HIV infection.

Circumcision and HIV Infection Rates in Selected Countries



Making Fiction from Science

The claim that circumcision prevents AIDS was made on the basis of observational studies of men already circumcised and randomized controlled trials where men underwent a circumcision at the start of the study.

All of the studies attempted to predict what happened on a microscopic level by studying conditions on a macro level, which is far less precise. Researchers were not able to observe exactly when, where, or how each individual got infected. Therefore, a fundamental assumption was made that it is possible to draw conclusions about the *mode of transmission* of HIV by enumerating the *success of transmission* in specific populations.

So convenient a thing it is to be a reasonable creature, since it enables one to find or make a reason for everything one has a mind to do.

Benjamin Franklin

This assumption could produce misleading conclusions about the role of the foreskin in HIV infection. The rules of evidence in medicine are much lower than the rules of evidence in our legal system. The exact *cause* of changes in HIV infection rates did not have to be proved by the studies, and was not. In fact, the cause of transmission cannot be proved statistically.

Circumcised status and HIV infection are the two variables that researchers compared statistically. The researchers claim that there is a *correlation* between the rate of HIV infection and circumcision status. Correlation is the interdependence between two variables. It does not mean that a change in the rate of HIV infection is necessarily *caused by* a change in circumcision status. Correlation is not the same thing as *causation*, but the researchers also claimed that the correlation was *caused by* circumcision status.

The researchers maintain that the difference in HIV infection rates is *not* due to many other, *confounding* factors that might also influence infection rates. If these infection rates do actually depend on other confounding factors, then the results will be reinforced by these other influences.

In an attempt to prevent this, researchers try to “control for” these other factors. In an ideal experiment, all of the confounding factors that could possibly affect the experiment are kept constant so as to eliminate their effects on the outcome. These controlled factors are never supposed to change.

Researchers often claim to have adjusted for “potentially confounding factors,” but this can’t be done completely because all of these factors are simply not known. In practice, researchers can only control for known factors, and only then if they are measured without errors. Even if an attempt is made to control for these known factors, in practice, the control group is not always unpolluted by them.

When a researcher is able to control for the actual factors for the spread of a disease in a population, the hypothetical reason may be found to be wrong. Alternately, if a researcher

did not control for the actual factors in the spread of a disease because it was not measured or is not known, then the conclusions drawn from the study will be wrong. If all the variables controlled for are not independent of each other, then the results of the study will be misleading and unreliable.

Since circumcision is practiced for religious and cultural reasons, it is not chosen or practiced at random. Foreskins are found among men who have risk factors that actually spread HIV without any help from their foreskins. Significant factors such as sexual practices, number of partners, limited healthcare, poor hygiene, and drug use all have some association with having or not having a foreskin. These and other confounding factors were often not controlled for in the studies and make meaningful comparisons impossible.¹⁷

Any study also introduces confounding factors by virtue of its existence. For example, the men studied were those who had easy access to a health clinic and willingly showed up there to be interviewed.

Observational studies comparing HIV infection rates in circumcised versus uncircumcised men were poorly designed, inconsistent, and misleading. The observational data varied widely, with no definitive support for circumcision. The studies often contradicted each other in their findings.

When several observational studies were refined with an analysis for confounding factors, the perceived advantage of circumcision disappeared.^{18, 19} Controlling for confounding factors eliminated the difference between HIV infection rates between the circumcised and intact groups, indicating that circumcision was not the real reason for a decreased HIV infection rate.

If confounding factors are controlled for, the researcher has to somehow isolate the research subjects having those factors. This often divides the target population into smaller subgroups, thereby reducing the statistical power of the results. A positive correlation could be due merely to the over or under sampling of a subgroup.

The confounding factors listed below have all been associated with an increase or decrease in HIV infection. Some of these confounding factors have probably created a spurious correlation between circumcision status and HIV infection rate by operating in favor of the results.

age at circumcision	non-sterile procedures
age at first intercourse	number of partners
concurrent partners	other infections
anal sex	other sexually transmitted infections
condom use	periodic abstinence
drug and alcohol use	post-intercourse hygiene
“dry” sex	retractability of the foreskin
duration of intercourse	severity of circumcision
fidelity	sex during menses

frequency of intercourse
genital lesions
genital ulcers
malaria
melanin in the foreskin

sex with prostitutes
sex with circumcised women
viral subtype of HIV
viral load

The randomized controlled trials attempted to balance out any confounding factors. In theory, assigning half the subjects at random for a circumcision increased the probability that differences in infection rates between the two groups could be attributed to circumcision. However, it is impossible to run double-blind trials involving circumcision. The potential for bias in estimating a benefit still remains because of the experiences and exposures these men had *after* their circumcisions may have been different from the intact men. The infection rates may still have depended on confounding factors.

Three randomized controlled trials were stopped early, after a positive correlation with circumcision was detected, but perhaps before an HIV infection could be detected in some of the men. These studies might even have shown a *negative* correlation if they had been allowed to run for a longer period.

Studies stopped early usually overstate the actual treatment benefit. A systematic review of 143 unrelated randomized controlled trials that were stopped early because of perceived benefits found that, on average, they overestimated the benefits of treatment.²⁰

My sense is that the circumcision study may have been stopped too early and that there is a real danger we may be subjecting hundreds of thousands or millions of men to having circumcisions that may not have the benefit we assume.

Jeremy Grimshaw
Director of Clinical Epidemiology
University of Ottawa
CBC News Viewpoint
November 21, 2005

Confounding factors present in the studies can be organized into population factors and behavior factors.

Population Factors

When data is gathered from research subjects concerning sexuality, the accuracy of self-reports is always questionable, even when confidentiality is assured. Most of the observational studies did not directly verify the circumcision status of the study subjects. The circumcision status was guessed based on tribal or religious affiliation. Without actually examining the patients to determine their circumcision status, it is impossible to be certain if circumcision had a protective effect.

The observational studies used men from different religions and/or ethnicities. Membership in a religion or ethnic group correlates with a variety of different customs, including sexual

practices, and it may be those, rather than circumcision, that are responsible for the difference in HIV infection.

Circumcision is highly correlated with religion so trying to predict the effect of circumcision among groups that practice it for religious reasons yields unreliable results. The same confounding factors may end up influencing the analysis twice.

Many of the observational studies used unrepresentative high risk sample populations, such as migrant workers, clients of prostitutes, or visitors to a sexually transmitted disease clinic. These groups do not represent a balanced sample of the population in terms of sexual behavior, general health, and other important factors.

“Viral load” is a measurement of the amount of HIV in a person’s blood. Studies report that the viral load in a person is a major factor in the risk of transmission of HIV.²¹ The circumcision studies could not control for viral load in the HIV carriers. The severity of HIV infection in his partners would have an affect on the results.

The population of men studied in the clinical trials was not truly random nor was it representative of the general population. There are known and unknown ways in which the men may have non-randomly included or excluded themselves. The trials offered free circumcisions and paid the men for their participation.

The men signed up for the studies because they *wished* to be circumcised for reasons that were not reported. They were paid research subjects who were interested in circumcision and in reducing their HIV infection risk. Since they were not a representative sample of the local population, they may have behaved differently. Some of the men who were not chosen to be circumcised right away may have dropped out of the studies.

This self-selection increased the likelihood of recruiting men who were experiencing difficulties with their penis such as a tight foreskin or irritations. These are easily treatable problems, but they signify an increased risk of infection.

The absolute number of HIV infections detected by the researchers in the randomized trials was very small. If the infections of a few men were actually confounded by other factors, known or unknown, the results of the studies may no longer be statistically significant.

The “law of small numbers” applies here: the results that are seen in a small number of subjects often aren’t repeated when applied to the general population. Therefore, the conclusions drawn may not apply to larger populations not being studied.

Behavior Factors

HIV infection risk is related to sexual behavior, which, like circumcision, is often determined by culture and religion. Strong confounding factors are likely to confuse the research. For example, religion influences not only circumcision, but also a man’s sexual practices, his choice of partner, his degree of monogamy, his use of alcohol, his use of condoms, and his attitudes towards homosexuality.

Behavior modifications the men in the studies made before and after their circumcision could produce misleading conclusions about the role of the foreskin in HIV infection. The men who underwent a circumcision at the start of the trials had to abstain from sexual activity for several weeks while they healed, in contrast to the intact men who continued to be exposed during that time. This would decrease the number of sexual encounters in the circumcised group. These exposure differences may only have evened out over a time span longer than the trials. The circumcised men had a greater number of meetings with healthcare workers than the intact men did, which may have encouraged them to reduce their risky behavior.

The studies could not determine if the reduction in the HIV infection rate was due to a change in behavior after having been circumcised. There are known and unknown ways in which the men may have non-randomly behaved after being circumcised. Circumcision changes the mechanics of sexual intercourse, and the manner, frequency, and duration of sexual activity. Sexual intercourse may be shortened in duration in newly circumcised men because the penis would temporarily be more sensitive.

The exposure time to HIV was not, and could not, be controlled for. If the duration or intensity of sexual intercourse is reduced, the risk of HIV transmission is probably reduced. How many times a week a man has sex would also have an affect on the results. The result in favor of circumcision may have been negated over a period longer than the duration of the trials.

The studies did not control for other sources of HIV transmission such as blood transfusions or exposure through infected needles.

Logical Fallacies

The positive correlations between circumcision status and an increased HIV infection rate can be explained on the basis of population and behavior differences.

Therefore, the conclusion that the foreskin *causes* men to become infected with HIV is an example of a *post hoc* fallacy. Because A occurred before B, this fallacy concludes that A caused B to occur even though proof that A caused B is not provided. It is evident in many cases that the mere fact that A occurs before B in no way indicates causation. Many superstitions are based on post hoc fallacies.

Leaping to a causal conclusion is always easier and faster than actually proving the cause of a phenomenon. However, such leaps tend to land far from the truth of the matter.

Relative versus Absolute

The results of these studies are publicized in terms of *relative* risk reduction, instead of providing the absolute values for infection risk. In the strongest claim, 20 out of 1,546 circumcised men contracted an HIV infection compared to 49 infections out of 1,582 intact men over a period of just 21 months.²² This means that the reduction in absolute risk was only 1.8%.

Announcing to the world that circumcision reduces the HIV infection rate by 60% sounds a whole lot better than saying that only 29 infections could be prevented in 2 years after the risk and expense of circumcising over 1,500 men willing to have genital surgery.

Furthermore, the results in these 29 men were extrapolated to the general population to predict that millions of infections throughout Africa could be prevented. This is a very optimistic claim from such a small absolute number.

Even if the results of the studies were true and all adult men could be circumcised, in ten years, new infections would only be reduced by 8% and HIV deaths by 1%.²³ *Sub-Saharan Africa would still be left with an annual HIV incidence rate 9 times higher than the United States.*²⁴

The various conditions, behavior, and lifestyles of people in Africa that have led to much higher HIV infection rates are very different from those found in the developed world. It would be wrong to apply findings from Africa to the developed nations.

The studies did not show that circumcision permanently protects against AIDS. In the case of repeated exposure, the circumcised men in the study will eventually contract AIDS and pass it on to their unwitting partners. Probability calculations done using the incidence rate measured by researchers for circumcised men show that *after 25 years, 19% of the circumcised men in the studies will be infected with HIV.*²⁵

Circumcising 95% of the intact adult men in Africa within ten years would be an impossible task for medical providers. Folk practitioners will undercut the price of sterile procedures as the demand for circumcision increases. Non-sterile circumcisions performed by these practitioners will spread HIV infections and increase the rate of complications.

Some advocates are recommending routine circumcision for infants on the basis of this research. Babies are being second-guessed about their sexual practices 16 years from now, about the availability of a vaccine then, and about their opinion on what parts of their body they wish to keep. They may not even be at risk when they reach sexual maturity or a cure for AIDS may exist.

Anatomical Puzzles

The premise of circumcision advocates is that the foreskin has no value and has immunological and mechanical defects that lead to infection with HIV. One alternate premise is that HIV sometimes overcomes the immunological defenses of the foreskin that protects and serves the rest of the penis. Another alternate premise is that after being circumcised, a man modifies his frequency and duration of sexual intercourse, reducing his exposure to HIV.

Langerhans cells in the mucous membranes of the foreskin have been blamed by researchers for their vulnerability to HIV. They are found in skin all over our bodies, including *all* genital tissue: the glans, foreskin, shaft, scrotum, clitoris, clitoral foreskin, labia, and vagina.

Circumcision cannot prevent the spread of AIDS to women once a circumcised man is infected. Unprotected heterosexual intercourse with an HIV-positive male will result in the deposition of HIV-contaminated semen in the vagina. In this situation, HIV is received in a moist, warm environment that may protect and prolong the life of the virus until it is able to infect susceptible host tissue.

The female genitals have exactly the same Langerhans cells blamed for enabling HIV infection in the male foreskin. Women have a much greater surface area of mucous membranes inside and outside of their genitals. An infected man is *about 8 times as likely* to infect a susceptible woman as an infected woman is to infect a susceptible man.²⁶

Female circumcision would not be an acceptable means of reducing HIV infection in Africa, but the premise of the research indicates that it would be very helpful. One published study found a lower risk of HIV infection among circumcised women that was not attributable to other risk factors.

The mucous membranes in the foreskin of a male or a female may theoretically be more vulnerable to infection. However, when confronted with the risk of a fatal disease (or with genital mutilation), that theoretical difference should only be of academic interest.

The most common reason men give for not wearing a condom is that it reduces sensation and pleasure. Circumcised men experience a progressive loss of sensitivity as a result of their circumcision. Therefore, circumcision will only discourage condom use further.

The loss of penile skin from circumcision frequently results in tightened, scarred skin on the erect penis. This eventually increases friction during intercourse, which increases the likelihood of abrasions through which HIV can pass. A significant increase in friction may not appear until a year or two after being circumcised. The clinical trials ran less than two years, and so an increase in friction may not have had an influence on the outcome.

To circumcise for therapeutic reasons where medical research has shown other techniques to be at least as effective and less invasive would be unethical and inappropriate.

*The Law and Ethics of Male Circumcision -
Guidance for Doctors
June 2006
British Medical Association*

Where else on the human body can a normal part of an organ be cut off with no loss of function? If removal of the foreskin causes a loss of function such as an increase in friction, why wasn't the foreskin assigned a relative value by the researchers before they made a recommendation?

A Dangerous Prescription

Circumcision advocates propose to persuade men to be circumcised because it will protect them, and afterwards tell them not to have unprotected sex because it won't protect them.

What exactly will “partial protection” mean to circumcised men?

This dangerous message may make many circumcised men worldwide feel that since they are now at decreased risk, they are sufficiently protected without condoms. The effort and discomfort spent in getting circumcised may convince some men that they have done enough to protect themselves and that taking additional steps is unnecessary. They may also increase their number of sexual partners. With repeated exposure to HIV, some of these men will eventually become infected with the virus and pass it on to their unwitting partners.

If promoting circumcision increases the net rate of unprotected sex, the rate of HIV infection may actually increase. Even if circumcision reduced the risk of infection during any one sexual encounter, long-term risky behavior without using a condom carries a high risk of HIV infection. The HIV infection rate among adults in sub-Saharan Africa is *10 times more* than in the United States.

For highly exposed men, such as men living in Africa, the choice is either using condoms consistently, with an extremely low risk of becoming infected, or being circumcised and taking a much higher risk of becoming infected there than in the United States.

Circumcization has no legitimate future in developed countries because it could never be formally implemented without contradicting and undermining 25 years of safe sex messages and leaving large numbers of circumcised men and their partners at risk for a deadly infection.

In one study in South Africa, for example, two out of five circumcised men were infected with HIV, compared with three out of five uncircumcised men. Relying on circumcision for protection is, in these circumstances, a bit like playing Russian roulette with two bullets in the gun rather than three.

*Report on the Global HIV/AIDS Epidemic
June 2000
UNAIDS*

Regular condom use has proven to be highly protective at the individual level for both men *and* women. Condoms are cheaper, provide much more safety than circumcision, and they protect women too.

So the message worldwide needs to stay the same: “Men and women can’t get AIDS if they are never exposed to the virus. They will get AIDS if exposed frequently enough. When they get AIDS, they won’t know right away, and they could pass it on to their unprotected partners. So if you’re not certain, use a condom every time.”

If a man uses condoms as required in recommendations for safe sex, what is the purpose of promoting circumcision as well? Wouldn’t mass circumcisions just add to the costs of other necessary interventions like sex education and condoms?

The estimated costs in southern Africa to do a sterile circumcision with anesthesia is between \$25 to \$50. The estimated cost of delivering a culturally-sensitive safe sex education program per person is about \$1. The cost of a condom in southern Africa is 3 cents.²⁷

Circumcision is a competitor to condoms, not a supplement to them. Condom use doesn't just supplement the supposed benefit of circumcision; condoms *negate* the benefit.

Condom use in 13 African countries more than tripled from 1993 to 2001.²⁸ Condom use has been successful in reducing HIV infection rates in Eastern Uganda, Senegal, and Thailand.

Sixty percent less at risk? Then what about the forty percent? If you have got one hundred circumcised people and they live recklessly, and sixty percent don't get AIDS but forty do, what are you looking for?

President Yoweri Museveni
Uganda
December 21, 2006

Circumcised men in the United States have been found to be more likely to engage in active anal sex. Without a condom, this will increase a circumcised man's susceptibility to HIV.

The Irrational Exuberance of Researchers

The politics of crisis has provided a fertile ground for promoting the practice of circumcision in Africa and worldwide. Money is flowing from the public and private sectors in the North America to pay for circumcision trials and to provide free circumcisions to African men. Journalists and publishers in the United States have devoted a large amount of attention to the results.

Behavioral factors are far more important risk factors for acquisition of HIV and other sexually-transmissible diseases than circumcision status, and circumcision cannot be responsibly viewed as 'protecting' against such infections.

Report 10: Neonatal Circumcision, 1999
American Medical Association

Sex and research should both be chaperoned by common sense. In general, researchers prefer to focus on the source of disease, not on the source of health. An assumption was made by researchers and their financial backers prior to undertaking the trials that a campaign of mass circumcision would be preferable to an increased campaign for condom use. From their premise, these studies demonstrate a bias toward promoting circumcision over promoting condom use. The human body—and not human behavior—is blamed for the origin of disease.

One common 20th century excuse for circumcision was that men were too careless to wash their genitals. Now they are supposedly too careless to use a condom. This bias also relies on old racist stereotypes about the wanton sexual appetites of black men and about their supposed general lack of discipline. The researchers assume that African men are unable to adapt to increasing risks.

The idea for mass circumcision in Africa did not emanate from researchers in Africa, but rather from white, North American physicians and researchers, most of whom had a long history of irrational exuberance for mass circumcision in North America. Circumcision advocates are almost always circumcised men from circumcising cultures.

The researchers are not acting like typical, dispassionate researchers. They did not leave the public health recommendations to others. They publicized their own call for circumcization to prevent AIDS long before the first randomized controlled trial began. They have attempted to upstage condoms as the only practical way of preventing the spread of HIV.

Few men, including researchers, can be neutral about the subject of circumcision. The temptation to justify what was done to oneself as a proud member of a religion or a cultural group is irresistible to all but the most self-aware. These studies appeal to physicians and religious advocates that want to keep circumcising, but need a better justification to do so.

Researchers who publish studies have an ethical obligation to disclose any financial or personal conflicts of interest. Do these researchers have any religious or cultural beliefs that may affect their scientific thinking? Are these researchers seeking support for these personal beliefs by carrying out these studies?

Researchers may hope that as they promote their results in the headlines of the Western press, circumcision will once again spread from Africa back to the West, as it did hundreds of years ago.

The confounding factors previously described could produce the results researchers were actually hoping for without having to acknowledge the influence on their results. The general public and most physicians are not savvy enough in experimental design to suspect these confounding factors when results are sensationalized by the media. Studies that fail to find positive results are often never submitted for publication or are passed over by editors.

Russian Roulette, African Style

Is the AIDS epidemic the result of a failure to circumcise or will we witness yet another failure of circumcision, as always, even after its 140-year history in medicine?

The declaration from circumcision evangelists is that because large, randomized controlled trials were done, the results cannot be wrong. However, these trials left gaps in experimental design where a false positive could appear. Population and behavior factors present before and after the circumcisions and the short duration of the clinical trials cast serious doubts on the results. For all of the many reasons explained above, the results can be wrong, the conclusion dubious, and the recommendation dangerous. None of the studies can be relied on to prove that a healthy, intact penis is more susceptible to HIV infection than a circumcised one.

The claim that circumcision prevents AIDS is *sophistry*, a claim that sounds plausible but is actually unsound and misleading. Circumcision evangelists have muddied the message that the only practical way of preventing the spread of AIDS is using condoms. Promoting

circumcision now will decrease condom use and increase HIV infection rates. Circumcision is expensive when compared to condoms and does nothing to reduce the need to pay for condoms as well.

In the century since the majority of American infants have been routinely circumcised, clinical evidence, absent of confounding factors, has not been able to prove that circumcision prevents any sexually transmitted disease. The American Academy of Pediatrics maintains that behavior is far more significant in acquiring HIV infection than circumcision status.²⁹

Behavioral factors appear to be far more important risk factors in the acquisition of HIV infection than circumcision status.

*1999 Circumcision Policy Statement
American Academy of Pediatrics*

It is ironic that the researchers who conducted the clinical trials had to obtain the consent of their research subjects in order for them to be circumcised, but some of these same researchers think nothing of advocating this surgery on minors who cannot provide consent. Since circumcision without consent is very common worldwide, it is not obvious to circumcision advocates that ethically, they must wait until they can obtain the consent of those whom they wish to circumcise.

As a result of these studies, for the first time, large numbers of sexually active men will be able to report their experience of sex before and after circumcision. The studies may eventually demonstrate long-term dissatisfaction with circumcision as a result of a loss of function.

No amount of study will change this science fact: circumcision won't keep men safe from HIV infection, and so it won't keep women safe either.

Circumcision has no practical value in preventing HIV infection, no long-term benefit in controlling the epidemic, and no real benefit to those at risk. The safe bet is that circumcision, rather than a panacea for the AIDS epidemic, is the folly of science fiction.

Norm Cohen
Director, NOCIRC of Michigan
NormCohen@NOCIRCOFMI.org

PO Box 333
Birmingham, MI 48012
USA

(248) 642-5703
www.NOCIRCOFMI.org

References

- 1 Unless otherwise noted, all HIV infection data is taken from:
UNAIDS, *2006 Report on the Global AIDS Epidemic*, Geneva, Switzerland, 2006
- 2 Gollaher, David L, *Circumcision: A History of the World's Most Controversial Surgery*, Basic Books, New York, 2000, p 99
- 3 Siegfried N, Muller M, Volmink J, Deeks J, Egger M, Low N, et al, *Male Circumcision for Prevention of Heterosexual Acquisition of HIV in Men*, The Cochrane Library, 2003, Issue 2
- 4 This estimate is based on the results of the Kenyan study released on December 13, 2006. See: Bailey RC, Moses S, et al, *Male Circumcision for HIV Prevention in Young Men in Kisumu, Kenya: a Randomised Controlled Trial*, The Lancet, February 24, 2007, Vol 369, p 643

This study found an annual HIV incidence rate of 0.79%, calculated as follows: 22 infections per 1393 circumcised men per 2 years of study. This result is divided by a US annual HIV incidence rate of 0.13% in African-American men published by the Centers for Disease Control and Prevention in *HIV/AIDS Surveillance Report 2005*.
- 5 World Health Organization, *The HIV/AIDS Pandemic: 1993 Overview*, Geneva, Switzerland, 1993, Publication No WHO/GPA/CNP/EVA/93.1
- 6 EuroHIV Surveillance in Europe, *Mid-Year Report 2005*, Saint-Maurice: Institut de veille sanitaire, 2006, No 72
- 7 Centers for Disease Control and Prevention, *HIV/AIDS Surveillance Report 2005*, United States Department of Health and Human Services, Atlanta, Georgia, 2005, Vol 17
- 8 National Institute of Allergy and Infectious Diseases, *Adult Male Circumcision Significantly Reduces Risk of Acquiring HIV*, United States Department of Health and Human Services, Bethesda, Maryland, USA, 13 December 2006
- 9 National Institute of Allergy and Infectious Diseases, *Q&A, NIAID-Sponsored Adult Male Circumcision Trials in Kenya and Uganda*, at http://www3.niaid.nih.gov/news/QA/AMC12_QA.htm, United States Department of Health and Human Services, Bethesda, Maryland, USA, December 2006
- 10 The current incidence of circumcised men is estimated from:
Laumann EO, Gagnon JH, Michael RT, and Michaels S, *National Health and Social Life Survey 1992*, University of Chicago and National Opinion Research Center, Chicago, Illinois, USA, 1995
- 11 UNAIDS, *Male Circumcision Fact Sheet*, Geneva, Switzerland, July 2005

-
- 12 This estimate is calculated using the US adult circumcision prevalence of 75% and from cumulative data gathered on sexually-transmitted HIV infections from the Centers for Disease Control and Prevention, published in *HIV/AIDS Surveillance Report 2005*.
 - 13 Garenne M, *Male Circumcision and HIV Control in Africa*, PLoS Medicine, January 2006, Vol 3, No 1, p 143
 - 14 Central Statistical Agency, Ethiopia, and ORC Macro International, *Ethiopia Demographic and Health Survey 2005*, Addis Ababa, Ethiopia and Calverton, Maryland, USA, 2006
 - 15 When more recent or more accurate data on the incidence of male circumcision in Africa is not available, the incidence of male circumcision is taken from:
Williams BG, Lloyd-Smith JO, Gouws E, Hankins C, Getz WM, et al, *The Potential Impact of Male Circumcision on HIV in Sub-Saharan Africa*, PLoS Medicine, July 2006, Vol 3, No 7
 - 16 Ministry of Health and Social Welfare, Lesotho, Bureau of Statistics, Lesotho, and ORC Macro International, *Lesotho Demographic and Health Survey 2004*, Calverton, Maryland, USA, 2005

Way A, Mishra V, et al, *Is Male Circumcision Protective of HIV Infection?*, International AIDS Society, April 2007
 - 17 Van Howe RS, Svoboda JS, Hodges FM, *HIV Infection and Circumcision: Cutting through the Hyperbole*, The Journal of the Royal Society for the Promotion of Health, November 2005, Vol 125, No 6, p 259-265
 - 18 Van Howe RS, *Circumcision and HIV Infection: Review of the Literature and Meta-Analysis*, International Journal of STD and AIDS, January 1999, Vol 10, p 8-16
 - 19 Oster E, *HIV and Male Circumcision: Differences May Not Result From Different Transmission Rates*, Harvard University, Cambridge, Massachusetts, USA, 2004
 - 20 Montori VM, Devereaux PJ, Adhikari NKJ, et al, *Randomized Trials Stopped Early for Benefit: A Systematic Review*, Journal of the American Medical Association, 2 November 2005, Vol 294, p 2203-2209
 - 21 Quinn TC, Wawer MJ, Sewankambo N, et al, *Viral Load and Risk of Heterosexual Transmission of HIV-1 among Sexual Partners*, Program and Abstracts of the 7th Conference on Retroviruses and Opportunistic Infections, San Francisco, CA, 30 January - 2 February 2000, Abstract 193
 - 22 National Institute of Allergy and Infectious Diseases, *Update on NIAID-Sponsored Adult Male Circumcision Clinical Trials*, at www3.niaid.nih.gov/news/newsreleases/PDF/AMC_Telebriefing_Transcript.pdf, United

States Department of Health and Human Services, Bethesda, Maryland, USA, 13
December 2006

- 23 Williams BG, Lloyd-Smith JO, Gouws E, Hankins C, Getz WM, et al, *The Potential Impact of Male Circumcision on HIV in Sub-Saharan Africa*, PLoS Medicine, July 2006, Vol. 3, No. 7, p 1038
- 24 An 8% reduction in the 2006 HIV prevalence of 5.9 in sub-Saharan Africa would be 5.4%. Compare this to the 0.6% HIV prevalence in the United States.
- 25 This calculation assumes that all intact men are at an equal risk of HIV infection at 2.1% per year, and all circumcised men are at equal risk at 60% less than that, or 0.85% per year. See: Auvert B, Taljaard D, et al, *Randomized, Controlled Intervention Trial of Male Circumcision for Reduction of HIV Infection Risk: The ANRS 1265 Trial*, PLoS Medicine, November 2005, Vol. 2, No. 11

After 25 years, 41% of the intact men will have been infected and 19% of the circumcised men will have been infected. After 50 years, 65% of the intact men will have been infected and 35% of the circumcised men will have been infected.
- 26 Padian NS, Shiboski SC, Glass SO, Vittinghoff E, *Heterosexual Transmission of Human Immunodeficiency Virus (HIV) in Northern California: Results from a Ten-Year Study*, American Journal of Epidemiology, August 1997, Vol 146, Issue 4, p 350-7
- 27 Shelton JD, Johnston B, *Condom Gap in Africa: Evidence from Donor Agencies and Key Informants*, British Medical Journal, 20 October 2001, Vol 323, Issue 7318, p 937
- 28 Cleland J, Ali MM, *Sexual Abstinence, Contraception, and Condom Use by Young African Women: A Secondary Analysis of Survey Data*, The Lancet, 18 November 2006, Vol 368, Issue 9549, p 1788-1793
- 29 Task Force on Circumcision, American Academy of Pediatrics, *1999 Circumcision Policy Statement*, Pediatrics, Chicago, March 1999, Vol 103, No 3, p 686. See: www.aap.org/policy/re9850.html