Male circumcision and HIV prevention : A TAC Briefing

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The World Health Organisation has recommended that male medical circumcision is an important part of HIV prevention efforts.[2] To understand male circumcision and its role in HIV prevention, we need to consider its scientific, ethical and operational consequences.

The scientific evidence is clear: in a high HIV prevalence society there are considerable health benefits that far outweigh the small risks if male circumcision is carried out safely and properly. However, there are complex ethical and operational issues to consider when implementing a public health circumcision programme.

This briefing makes the following recommendations for TAC branches to consider: We must have accurate information to make informed decisions about circumcision and have access to safe health services that offer circumcision. Therefore, the Department of Health must provide widely distributed accurate information to the public on the role of medical circumcision in HIV prevention. Medical circumcision should be offered free of charge at selected widely advertised health facilities across the country and must be coupled with the highest standard of HIV counselling and testing. The state must also make sure that traditional and religious circumcisions are carried out safely and in accordance with national and provincial laws governing circumcision.

What is male medical circumcision?

Male circumcision is a surgical procedure to remove the foreskin of a male's penis. This practice has been carried out for religious and cultural reasons for thousands of years. Male circumcision must be distinguished from female genital mutilation, still carried out in some countries, which is universally condemned as a violation of human rights and has a serious adverse impact on women's health, dignity and autonomy.[3]

By medical circumcision we mean that the foreskin is removed under hygienic conditions and anaesthetic by a trained person using surgical tools and techniques accepted by the medical profession.

What does science tell us about male circumcision and health?

Scientific research shows important health benefits of circumcision, especially in high HIV prevalence areas. Here is a brief description of both the benefits and risks of circumcision.

Health benefits of circumcision

- **Circumcision reduces a heterosexual male's risk of contracting HIV. This has been conclusively**

These studies, all conducted in Africa, randomly divided a large group of uncircumcised heterosexual HIV-negative male volunteers into two groups, one of which was then circumcised. The two groups were counselled on safer sex and followed up over a period of time.

- o A study of 3,274 men in Orange Farm, South Africa showed a reduced risk of HIV infection of 60%. The trial participants were followed up for an average of 18 months.[5]

- o A similar study of 2,784 men in Kisuma, Kenya showed a reduced risk of about 53% after an average follow-up of two years.[6]

- o A similar study of 4,996 men in Rakai, Uganda showed a reduced risk of 55% after an average follow-up of two years.[7]

- **There is some evidence[8] that female partners of circumcised HIV-positive men are less likely to contract HIV than female partners of uncircumcised HIV-positive men**. A Ugandan study observed the rate of HIV infection between couples in which the male partners were HIV-positive and the female partners were HIV-negative. The partners of uncircumcised HIV-positive men were much more likely to contract HIV.[9]

- **There is some evidence from studies in the United States and East Africa that circumcised men are less likely to get penile cancer than uncircumcised men.[10, 11, 12]**

- **There is some evidence from a study in the United States that circumcised boys are less likely to get urinary tract infections than uncircumcised boys.[13]**

- **There is some evidence from two studies that female partners of circumcised men have a lower risk of contracting cervical cancer.[14, 15]** This is possibly because uncircumcised men are more likely to infect their partners with the human papilloma virus.

- **There is some evidence that circumcised men are less likely to get some sexually transmitted infections such as genital ulcers, syphilis and gonorrhea.[16, 17]**

- **Circumcised men do not get the medical conditions phimosis (inability to retract foreskin) and paraphimosis (swelling of the protracted foreskin).**

Health risks of circumcision

- **Complications occur in a small percentage of medical circumcisions because it is a surgical procedure.** In the vast majority of cases these are resolved. In rare instances deaths have occurred.[18, 19]

- **Some men who are circumcised report that their sexual functioning has decreased or that their penises are less sensitive after circumcision.** A study has shown that men with foreskins have greater penile sensitivity. However, some men also report improved satisfaction after circumcision. There is a wide variety of reactions, both positive and negative, that men experience after circumcision.[20, 21, 22]

- **During the period in which the penis is healing after circumcision (about a month), the risk of transmission from an HIV-positive man to an HIV-negative female partner might be higher than for uncircumcised men.** This is a preliminary result of the circumcision study described above in Rakai, Uganda, but the result was not statistically significant. This shows the importance of counselling men to abstain from sex while their penis is healing from the circumcision.[23]

The health benefits of circumcision in South Africa are substantial, but there are ethical and operational issues that also need to be considered.

What are the ethics of circumcision

Circumcision is for practical purposes irreversible. It permanently changes a man's body, causes significant physical pain and, at least in some cases, reduces his penile sensation. This raises three questions: Is it ethical to promote circumcision? Is it ethical to carry out circumcisions on children who might regret being circumcised at some point in their lives? Is it possible that the HIV prevention benefit of circumcising an infant boy today will be redundant by the time the child is sexually active because an HIV vaccine might exist?

These are not easy questions to resolve. However, we live in a society with many new HIV infections daily. The wide use of medical circumcision is likely to help reduce new infections. Certainly if a vaccine with the efficacy of circumcision was developed, it would be implemented. We do not know if there will be an HIV vaccine ten, fifteen or even twenty years from now, or if that vaccine will be as effective as circumcision at reducing the risk of HIV infection.

Parents and guardians have a duty to provide essential medical care, such as vaccinations, to their children. However, in contrast to vaccination, circumcision causes physical distress and permanently and significantly changes a boy's physical appearance. Therefore it should be the choice of parents and guardians to determine whether or not to circumcise their infants. Children older than infants should only be circumcised if both they and their parents or guardians consent to it.

South Africa's Children's Act includes a section on male circumcision which prohibits circumcision of males under 16 except when:

- "performed for religious purposes in accordance with the practices of the religion concerned and in the manner prescribed"; or

- performed for medical reasons on the recommendation of a medical practitioner.

We recommend that children under 16 and older than infants should only be circumcised after proper counselling and with their assent. For children over 16 the law requires informed consent and proper counselling.

Operational issues of a public health circumcision programme

There are operational issues that must be considered before implementing circumcision as a public health measure.

Heterosexual men who are circumcised remain at high risk of contracting HIV if they do not use condoms during penetrative sex. Circumcision must be promoted in such a way that it does not lead men to believe that once they are circumcised they can have riskier sex.

Circumcision in the public health system offers an opportunity to counsel and test men for HIV. HIV counselling across the public health system is currently often poor and unstandardised. But because of the threat that circumcision might be interpreted as a license to have unprotected sex, it is important that the counselling that is offered when men get circumcised is very good and standardised. By offering testing coupled with counselling, more men can find out their HIV status and, if they test positive, can immediately enroll in the public sector's monitoring and treatment programme.

Boys and young men in South Africa are usually circumcised as part of religious or traditional ceremonies. These circumcisions are seldom done by medical experts. Often they are perfomed under non-hygenic conditions. They are hardly ever done under anaesthetic and there have been many reports of incompetence that resulted in boys being hospitalised. It is not clear if the health benefits outweigh the risks for boys who have been circumcised in this way. It will also not be easy to convince people who wish to have their children circumcised religiously or traditionally to rather do so using the health system. Traditional and religious male circumcision rites should be allowed, but the state must ensure they are carried out safely and in accordance with national and provincial laws governing circumcision. Traditional or religious circumcisions must be conducted safely using hygenic surgical equipment by people who have been appropriately trained. There are laws enacted in three provinces to govern standards of traditional circumcisions, such as the Application of Health Standards in Traditional Circumcision Act in the Eastern Cape, and these must be enforced.

On the other hand, many people do not choose to circumcise their boy children or themselves. It remains to be seen if there will be any uptake of a circumcision programme offered in the public health system and promoted by the state.

Although circumcision is a relatively safe surgical procedure, complications can occur. Circumcision should therefore be offered by the state at public health facilities with surgical facilities meeting acceptable standards. The Department of Health must make sure these facilities are developed in districts where they do not currently exist.

1 Drafted by Nathan Geffen with extensive assistance from Mark Heywood including direct use of text from a draft paper by Heywood. Thank you to various scientists with expertise on circumcision for reviewing this briefing. Primary reference: World Health Organisation, UNAIDS, UNICEF, UNFPA, World Bank. 2007. Information package on male circumcision and HIV Prevention. Download this collection of four fact sheets from http://www.who.int/hiv/topics/malecircumcision/en/index.html

2 WHO and UNAIDS announce recommendations from expert consultation on male circumcision for HIV prevention. http://www.who.int/hiv/mediacentre/news68/en/index.html

3 In the rest of this briefing we only consider male circumcision and therefore we only use the term circumcision without qualifying it as male.

4 These controlled studies confirmed what had been observed in several uncontrolled studies, i.e. that circumcised men have a lower risk of contracting HIV heterosexually. E.g. Bailey et al. 2001. Male circumcision and HIV prevention: current knowledge and future research directions. Lancet Infect Dis. 1(4):223-31 and Howe. 1999. Circumcision and HIV infection: review of the literature and meta-analysis. International Journal of STD & AIDS, 10(1) pp. 8-16(9). http://www.ingentaconnect.com/content/rsm/std/1999/00000010/00000001/art00003

5 Auvert et al. 2005. Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 Trial. PLoS Med. 2005 Nov;2(11):e298. Epub 2005 Oct 25. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16231970&qu

6 Bailey et al. 2007. Lancet. Feb 24;369(9562):643-56. Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17321310&qu

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8 The term "some evidence" in this briefing means that a strong correlation has been observed between a health benefit or risk and circumcision but that no controlled study has been done. It is possible therefore that the observed benefit or risk might be confounded by other factors.

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12 Dodge OG, Kaviti JN. Male circumcision among the peoples of East Africa and the incidence of genital cancer. East Afr Med J 1965;42:98-105.

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16 Nasio et al. 1996. Genital ulcer disease among STD clinic attenders in Nairobi: association with HIV-1 and circumcision status. International Journal of STD & AIDS, 7(6) pp. 410-414(5) http://www.ingentaconnect.com/content/rsm/std/1996/00000007/00000006/art00006

17 Lavreys et al. 1999. Effect of Circumcision on Incidence of Human Immunodeficiency Virus Type 1 and Other

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http://www.journals.uchicago.edu/JID/journal/issues/v180n2/981351/981351.text.html?erFrom=13945025359018383O5G

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http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8242285&dopt=Citation

19 Also see the complications reported in the HIV circumcision trials referenced earlier.

20 Sorrells et al. 2007. Fine-touch pressure thresholds in the adult penis. BJU Int. Apr;99(4):864-9.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?CMD=search&DB=pubmed

21 Fink et al. 2002. Adult circumcision outcomes study: effect on erectile function, penile sensitivity, sexual activity and satisfaction. J Urol. 167(5):2113-6.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=11956453&qu

22 Masood et al. 2005. Penile sensitivity and sexual satisfaction after circumcision: are we informing men correctly? Urol Int. 75(1):62-6.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16037710&qu

23 Rakai Health Sciences Program. 2007/03/06. Press release titled: Study Presents New Information on Male Circumcision to Prevent Spread of HIV in Africa: Preliminary data highlight importance of wound healing and effects on women.

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