BUILDING OUR COMMUNITY'S HEALTH & WELLBEING

POLICY POSITION

Male Circumcision and HIV Transmission

December 2009

ACON does not support the implementation of male circumcision as a HIV prevention strategy in Australia. ACON supports NSW Health's current policy of not performing medically unnecessary circumcision in public hospitals.

A comprehensive health promotion approach including promoting consistent condom use is the safest and most cost effective HIV prevention strategy particularly with an epidemic which is concentrated amongst gay men and other men who have sex with men.

The current evidence does not demonstrate efficacy and cost effectiveness in preventing HIV transmission:

- **between men who have sex with men,**
- **between intravenous drug users,**
- **from men to women, and**
- **in relationships where at least one partner is from a country with high HIV prevalence.**

Male circumcision should only be performed with the voluntary consent of the man or adolescent on whom the procedure is to be performed, or if it is in the best interest of the child.

Background

The relationship between adult male circumcision and HIV transmission has caused a high level of interest in the international and Australian HIV/AIDS sector. The international discourse has focused on the efficacy of circumcision as a preventative strategy for HIV transmission for heterosexual men. There are now discussions in Australia surrounding the efficacy of circumcision in HIV prevention for the Australian context. This position paper focuses on the relationship between male circumcision and HIV, and does not examine the relationship between male circumcision and other health matters.

The international discourse was first driven by three large randomised trials of circumcision in South Africa,[1] Kenya[2] and Uganda.[3] The research from these trials showed a significant reduction in the risk of HIV transmission for men through female to male sexual transmission.

In 2006, the Joint United Nations Programme on HIV/AIDS (UNAIDS) along with the World Health Organisation (WHO), UNFPA, UNICEF and the World Bank released a statement in response to the three trials. The statement emphasised that "[m]ale circumcision should never replace other known effective prevention methods and should always be considered as part of a comprehensive prevention package."[4]

Furthermore in 2007 UNAIDS and WHO released recommendations from their international consultations regarding male circumcision and HIV prevention. The recommendation for expansion of male circumcision services were reserved for countries with "hyperendemic and generalized HIV epidemics and low prevalence of male circumcision". It did recommend that "[c]ountries with other HIV epidemic situations should carefully consider the potential impact that promoting male circumcision and expanding safe circumcision services will have on their HIV epidemic."

In Australia, female to male transmission is very low. Also the Royal Australasian College of Physicians released an updated position statement on 27 August 2009 after considering reviewing recent literature.[5] The position of the College was that it did not endorse routine circumcision of infant boys. The College considered the benefits of circumcision in relation to HIV and other infections, however "[t]he frequency of these conditions, the level of protection offered by circumcision and complication rate of circumcision do not warrant a recommendation of universal circumcision for newborn and infant males in an Australian and New Zealand context."[6] The College believes that circumcision should be delayed until the child can give informed consent or if parents request a circumcision for their infant after six months of age.

---

[1] B Auvert, D Taljaard, E Lagarde *et al.*, 'Randomised, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 trial. *PLoS Medicine*, vol 2(11), (2005), p. e298.

[2] RC Bailey, S Moses, CB Parker *et al.*, 'Male circumcision for HIV prevention in young men in Kisumu Kenya: a randomised controlled trial.', *Lancet*, vol 369(9562), (2007), pp. 643-656.

[3] RH Gray, G Kigozi, D Serwadda, *et al.*, 'Male circumcision for HIV prevention in men in Rakai, Uganda: a randomised trial', *Lancet*, vol 369(9562), (2007), pp. 657-666.

[4] UNAIDS,WHO, UNFPA, UNICEF & World Bank, 'Statement on Kenyan and Ugandan trial findings regarding male circumcision and HIV', Press Statement, 13 December (2006).

[5] Royal Australasian College of Physicians, *Current College Position on Circumcision*, (27 August 2009), at: http://www.racp.edu.au/index.cfm?objectid=5A51BEB4-C2B9-3862-AF8D76D0A28A26AA.

[6] *Ibid.*

The research on circumcision

The first randomised controlled trial, conducted in Orange Farm, South Africa between 2002 and 2004 included 3274 men aged 18-24. 3128 HIV negative participants were separated into the intervention group that underwent circumcision (1546 men), and the control group (1582 men). After 2 years, 69 participants contracted HIV, 20 were from the intervention group, and 49 were from the control group. The trial showed that circumcision reduced the risk of HIV negative men contracting HIV from HIV positive females by 60%.[7]

The Kenyan trials were located in Kisumu and included 2784 men aged 18-24. Of those, 1391 men were put into the intervention group and 1393 were in the control group. After 2 years, 22 men in the intervention group contracted HIV and 47 in the control group contracted HIV. It was concluded that circumcision reduced the risk of HIV transmission by 53-60%.[8] The trial based in Rakai, Uganda included 4996 men aged between 15-49. The results from this study showed that the reduction of risk of HIV infection ranged from 55-60% for those who were circumcised.

All three trials included education on reducing the likelihood of infection and safe-sex counselling (including condom use) and were conducted in clinical conditions.

The current theory on why circumcision has an impact on HIV transmission during unprotected insertive sex is that the inner foreskin:

- has less protective keratinisation protein,
- is easier to tear during intercourse,
- has a higher density of Langerhans cells which are vulnerable to HIV,
- may provide an environment where viruses are more likely to survive, and
- may increase HIV transmission through increased exposure to other STIs.[9]

It is important to note that all of the above risks and other risk factors can also be effectively minimised through condom use.

---

[7] B Auvert, D Taljaard, E Lagarde *et al.*, 'Randomised, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 trial. *PLoS Medicine*, vol 2(11), (2005), p. e298.

[8] RC Bailey, S Moses, CB Parker *et al.*, 'Male circumcision for HIV prevention in young men in Kisumu Kenya: a randomised controlled trial.', *Lancet*, vol 369(9562), (2007), pp. 643-656.

[9] Centers for Disease Control and Prevention, 'Male Circumcision and Risk for HIV Transmission and Other Health Conditions: Implications for the United States', (2008), at: http://www.cdc.gov/hiv/resources/factsheets/circumcision.htm.

The impact on the individual level of reducing the risk of HIV transmission for men does not necessarily translate to a public health benefit. The benefit at a societal level would depend on a number of factors, including the rate of consistent condom use, the uptake of HAART which reduces the viral load of people with HIV, the number of unprotected sexual partners, the prevalence in the general population and the rate of circumcision. It is estimated that even in Africa, where the likely impact of circumcision will be more significant due to the above factors, 72 circumcisions will have to be performed over the period of 2 years to prevent 1 transmission.[10]

Male circumcision may result in negative outcomes for men even in clean environments performed by a medical professional. The health risks associated with male circumcision include:

- Haemorrhage
- Infection
- Glanular ulceration
- Meatal stenosis
- An advertent injury of the urethra (fistula)
- Too much skin removed
- Anaesthetic complications
- Psychological trauma
- Secondary phimosis
- Secondary chordee.[11]

The Australian context

Research has established that circumcision can reduce the risk of female to male transmission of HIV through sexual intercourse. The reduction in risk is significant in South Africa, Kenya and Uganda where the prevalence is high, condom use is low, use of HAART is low and most transmissions are through heterosexual intercourse.

The Australian context is distinctly different to South Africa, Kenya and Uganda. It is unlikely that the benefits for Africa would translate to Australia.

The local HIV epidemic is not hyperendemic, Australia has one of the lowest prevalence rates of HIV in the world and a concentrated epidemic mostly in gay men. Around 86% of newly acquired HIV notifications in Australia are from homosexual

[10] E Mills, C Cooper, A Anema *et al.*, 'Male circumcision for the prevention of heterosexually acquired HIV infection: a meta-analysis of randomized trails involving 11050 men', *HIV Medicine*, vol 9, (2008), pp. 332-335.
[11] Royal Australasian College of Physicians, *Policy Statement On Circumcision*', Paediatrics & Child Health Division, (2004).

activity,[12] with very few cases of female to male transmission domestically. Australia also differs from the sub-Saharan African context as condom use in Australia is relatively high as is the availability and uptake of highly active anti-retroviral treatments (HAART). These factors combined would drastically reduce the risk of a heterosexual male contracting HIV from a woman in Australia compared to South Africa, Kenya or Uganda.

The current national statistics indicate that the prevalence of men who contracted HIV through heterosexual contact in Australia is less than 0.1%.[13] The prevalence rate for heterosexual women is also less than 0.1% in Australia.[14] The overall prevalence rate of HIV is 0.2% in Australia.[15] This is significantly lower than prevalence rates of South Africa (18.1%), Kenya (7.1 to 8.5%) and Uganda (5.4%).[16] Australia has experienced some increases in prevalence amongst heterosexual men, the increases have been in heterosexual men who have had exposure to HIV overseas and injecting drug users (at 0.3% and 0.4% respectively). The increase in prevalence in these groups over the 2000s has not led to an increased prevalence in the general population. The current evidence does not suggest that general prevalence of heterosexual men will significantly increase in Australia due to increases in these two sub-groups.

Circumcision has also been advocated in Africa as a cost-effective one time method to reduce HIV transmission. The cost-effectiveness analysis of circumcision as a tool for HIV prevention in Australia again needs to consider the Australian context. The Australian epidemic is concentrated in gay men and other men who have sex with men, people who come from or who their partners come from a high prevalence country and intravenous drug users. Circumcision, especially neonatal circumcision would be a blunt instrument that impacts on the general population when the relative risk is in priority populations. Furthermore, it is unclear circumcision is effective for gay men and other men who have sex with men (discussed below). Targeted interventions and health promotion within specific priority populations are a much more cost effective method to address a concentrated HIV epidemic.

Currently, the evidence has only shown that circumcision would be effective in contexts where there is a high risk of contracting HIV through female to male transmission. In the Australian context of low prevalence, high condom use, lower viral load due to high uptake of HAART, male circumcision would have very limited public health benefit. The medical risk of routine male circumcision however remains,

---

[12] National Centre for HIV Epidemiology and clinical research, *Annual Surveillance Report*, (2009), p. 11
[13] *Ibid.*, p. 24.
[14] *Ibid.*, p. 24.
[15] UNAIDS/WHO, *2008 Report on the Global Epidemic*, (2008).
[16] *Ibid.*

as well as the resource cost of male circumcision. The opportunity cost of expanding male circumcision in the context of increasing demands on the health system in Australia, combined with the medical risk of male circumcision does not suggest circumcision will be effective or cost efficient. Therefore ACON does not support the implementation of male circumcision as a HIV prevention strategy for heterosexual transmissions in Australia.

The impact of male circumcision on specific population groups

The evidence regarding male circumcision and its impact does not demonstrate that it will be effective in reducing HIV transmission in specific population groups of concern. These key priority groups include: gay men and other men who have sex with men, intravenous drug users, men from high prevalence countries and women.

Gay men and other men who have sex with men

In Australia, heterosexual transmissions account for only around 10% of newly acquired HIV infections, with transmission between men accounting for around 86%.[17] Given the vast majority of HIV transmission has been through unprotected anal intercourse between men, for circumcision to be an effective tool against HIV transmission in Australia, it needs to be effective in the context of homosexual anal intercourse.

Although no clinical research has been conducted in relation to gay men and other men who have sex with men (MSM), international research focusing on the association of circumcision and HIV transmission in gay men and other MSM have not shown a statistically significant association.[18] A meta-analysis of 15 studies with a total of 53 567 men, including two Sydney based studies found no statistically significant or direct association between circumcision and HIV transmission, especially after the onset of HAART.

There are many differences between men who have sex with women and gay men. Most gay men engage in receptive anal intercourse, and do not exclusively engage in insertive intercourse. As the majority of HIV infections are related to men who have engaged in unprotected receptive anal intercourse, the benefits of circumcision would not apply to the majority of HIV transmissions. The data do not show any benefits of circumcision for the receptive partner. Even for the small percentage of gay men who

[17] National Centre for HIV Epidemiology and clinical research, *Annual Surveillance Report*, (2009), p. 11

[18] GA Millet, SA Flores, G Marks, *et al.*, 'Circumcision status and risk of HIV and sexually transmitted infections among men who have sex with men: a meta-analysis', *JAMA*, vol 300(14), (2008), pp. 1674-1684.

engage exclusively or primarily in insertive intercourse, the meta-analysis did not show statistically significant results.[19, 20]

The efficacy of circumcision in preventing HIV transmission in gay men and other MSM is not conclusive. Furthermore, the impact that circumcision has on the sexual behaviour of gay men and other MSM cannot be extrapolated from research on the impact of circumcision on the sexual behaviour of heterosexual men in Africa. The questions of risk compensation, especially combined with the knowledge that one partner is less at risk than the other partner, has not been explored in the context of gay men and other MSM. Health promotion, especially around consistent condom use has been effective at HIV prevention in NSW, particularly amongst gay men. NSW is one of the only places in the world to have a stable HIV transmission rate, and condom use amongst gay men is very high.

Therefore, ACON does not support the implementation of male circumcision as a HIV prevention strategy for homosexual transmissions in Australia. Health promotion for consistent condom use is the most effective tool to prevent HIV transmissions for gay men and other MSM.

Intravenous drug users

Intravenous drug users are a recognised priority group in Australia with a higher HIV prevalence than the general population. Controlling the transmission within this group is important in preventing the spread of the HIV epidemic to the general population. There is no evidence to suggest that circumcision will reduce HIV transmissions amongst this group. This is because the primary mode of transmission is contact with injecting equipment that has HIV and not through male-female sexual intercourse.

Men from high prevalence countries.

Men who have settled in Australia from countries with a high prevalence rate have a higher prevalence rate than the general Australian population. [21] Many contracted HIV while overseas and have been subsequently diagnosed in Australia. The sexual practices of these men are not necessarily the same as their compatriots in their country of origin in terms of condom use, number of partners and also the viral load of people with HIV. More research on these particular communities is needed before circumcision can be recommended to prevent HIV for these men in the Australian context. The current increased awareness and engagement with these communities

[19] *ibid.*
[20] Although there is some emerging data focusing on people who primarily practice insertive anal sex, the overall picture is still unclear.
[21] National Centre for HIV Epidemiology and clinical research, *Annual Surveillance Report*, (2009), pp. 23-24

by health service providers are key to understanding and preventing HIV transmissions.

The increased prevalence in this community does not necessarily mean that the broader general prevalence rate will be significantly affected. The use of condoms for casual sex is high in Australia and people with HIV are likely to be on HAART which reduces the viral load and thus transmission risk. The best policy tool to address higher prevalence within specific communities has been shown to be a partnership model based on a health promotion approach.[22]

Women

Male circumcision does not reduce the risk of their female partners contracting HIV.[23] A randomised controlled trial was terminated early after the results did not show a benefit for the female partners of circumcised HIV positive men when compared to the female partners of uncircumcised HIV positive men.[24] There was even an indication that the female partners of circumcised HIV positive men were at a higher risk of contracting HIV from their partner than the female partners of uncircumcised HIV positive men.

Some models based on the efficacy of circumcision in Africa have demonstrated flow on effects to women, in the long run, if the HIV prevalence in men reduces. In the Australian context of low generalised prevalence, it is unclear what flow on benefits will result from male circumcision for women, especially if the epidemic is concentrated in some communities and many women who acquire HIV were exposed to it overseas.[25] Working with communities most at risk of HIV with a health promotion approach that focuses on community development, safe sex practices and culturally appropriate health care has shown to be successful and cost effective.

Human rights and ethical considerations of male circumcision

Male circumcision, like any other medical procedure has human rights and ethical dimensions. This is particularly relevant in the case of neonatal or male child circumcision. Adult and adolescent male circumcision should only be performed with the voluntary consent of the person that the procedure will be performed on, and only

---

[22] NSW Health, *A Think Tank: Why are HIV Notifications Flat in NSW 1998-2006?*, (2007).
[23] MJ Wawer, F Makumbi, G Kigozi *et al.*, 'Circumcision in HIV-infected men and its effect on HIV transmission to female partners in Rakai, Uganda: a randomised controlled trial, pp. 229-237.
[24] *Ibid.*
[25] *Ibid.*

as part of an integrated comprehensive prevention program.[26] This is due to the fact the circumcision only offers limited protection against HIV transmission and a higher degree of risk may result if condom use declines as a result. The procedure should also only be performed by trained medical professionals in a clean environment as recommended by UNAIDS.[27]

In the case of infants and children who are not able to consent to the procedure, the human rights principle that actions be taken in the best interest of the child should be the guiding principle. The benefits for the child in the case of male circumcision to prevent HIV transmission is in the future. The low prevalence of HIV in Australia also reduces the likelihood of any benefits of the procedure in relation to HIV prevention. The risk of complications for male circumcision is drastically reduced if it is performed on an infant, however, male circumcision is irreversible, painful and invasive, whether the procedure is performed on an infant or adult.[28]

The considerations of the best interest principle for a child in Australia is not significantly altered by international findings of a reduction in the risk of acquiring HIV for circumcised men in Africa due to the different context that Australian children are born into.

Conclusion

Given that in Australia HIV prevalence is low, condom use is high and HAART uptake is high, circumcision has very limited impact on the transmission of HIV. The impact is further limited for gay men, the most at risk group of acquiring HIV through sexual intercourse. At the same time, the costs of routine circumcision would be expensive and expose infants and children to medical risks. The risk analysis and cost analysis does not suggest that circumcision would be effective as a method of combating HIV transmission in Australia.

[26] UNAIDS, *Safe, Voluntary, Informed Male Circumcision and Comprehensive HIV Prevention Programming: Guidance for decision-makers on human rights, ethical and legal considerations*, (2007).
[27] *Ibid.*
[28] Tasmania Law Reform Institute, *Non-Therapeutic Male Circumcision*, Issue Paper No 14, (2009).