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Prevention of HIV by male circumcision

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If the patient has a cardiac arrest out of hospital, early attention from a paramedical team with a defibrillator is life saving, but the chance of successful defibrillation declines 7-10% each minute after cardiac arrest.⁹ One early study of out of hospital cardiac arrest showed that the median time from onset of symptoms to cardiac arrest was 10 minutes.¹⁰ Clearly, waiting 15 minutes, as the British Heart Foundation suggests,² will be too long for some patients.

Recent data on sudden cardiac death do not confirm the early series; the symptoms were present for a median of 30 minutes before ventricular fibrillation started.¹¹ However, the data do confirm that most sudden cardiac deaths occur in patients with known cardiac disease, at home, and in the presence of relatives. This reaffirms the importance of clear and precise education for patients and relatives.

Most acute coronary syndromes occur in people already known to have ischaemic heart disease or to be at high risk. In this group the risk of subsequent myocardial infarction or death is 5-7 times higher than in the general population, and at least 70% of deaths from coronary heart disease occur in people who have had previous manifestations of cardiovascular disease.¹² However, recent data have shown that 40% of the general population would not immediately call an ambulance during a suspected myocardial infarction, and the greatest delays in calling 999 are in people at high risk.¹³ The obvious implication is that people at high risk are not receiving clear, effective guidance despite receiving care from a doctor at some stage.

The advent of rapid access chest pain clinics, patient information leaflets, and cardiac rehabilitation clinics may have made the medical community complacent about face to face doctor-patient counselling. However, any clinician faced with a patient with existing ischaemic heart disease should be able to give clear and precise instructions about when to call an ambulance.

On the basis of the pharmacodynamics of sublingual nitrates and the benefit of early presentation, we advise patients with known ischaemic heart disease or at high risk of myocardial infarction to carry a GTN spray at

all times and, should they develop acute chest pain, to take two metered doses (800 µg) immediately. If the pain persists at five minutes they should call an ambulance. They should not waste time by first calling a friend or relative and should not drive themselves to the emergency department.^{14 15} Patients and their relatives should also be taught how to recognise high risk features of chest pain, such as increasing frequency and severity of attacks (unstable angina), and autonomic features (common in STEMI).

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Prevention of HIV by male circumcision

Effective but integration with existing sexual health services remains the biggest challenge

Three randomised controlled trials consistently show that medically performed male circumcision can reduce the acquisition of HIV infection in men by at least 50%.¹⁻³ In east Africa and southern Africa—where rates of new HIV infections are high and circumcision rates are low—modelling studies estimate that circumcision could reduce the incidence of HIV in men by 50-60%.^{4 5} Clearly, the size of this effect would be determined by uptake. If uptake were 100%, an estimated 2 million new infections

and 0.3 million deaths in sub-Saharan Africa would be averted over 10 years, and up to 5.7 million new infections would be averted over 20 years.⁶ In a setting like Orange Farm in South Africa where one of the trials was performed,¹ a 50% uptake of male circumcision could avert 32 000-53 000 new infections over 20 years. Conclusions about the effect of male circumcision on the acquisition of HIV in women are awaiting the completion of a trial in Rakai, which is expected in 2008.⁷

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Countries face many challenges as they consider policies on circumcision for preventing HIV, especially as a surgical intervention in healthy men for preventing an infectious disease is a new paradigm in public health.

The United Nations AIDS/World Health Organization guidance on scaling up male circumcision is a useful starting point at a country level.⁴ It advises that male circumcision should be included as part of a comprehensive package of HIV prevention; health services in developing countries should be strengthened to provide high quality circumcision services; and that circumcision should be targeted in populations with low circumcision rates and high HIV prevalence at no cost to the client.⁴

Uptake will be socially complex as circumcision involves aesthetic changes to the penis that impact on perceptions of masculinity, religious practices, and rites of passage for boys to manhood in many African cultures. Also, an intervention where healthy men undergo an irreversible surgical procedure that carries about a 10% complication rate makes informed consent for the procedure extremely important. The consent process will have the added benefit of providing an opportunity for integrating counselling on safer sex practices and of enhancing strategies for HIV risk reduction at the individual level.

How to integrate this intervention into existing services is a major challenge in these settings. Health services for people who would benefit most from this intervention are already under strain from years of underfunding and neglect, as well as the impact of the AIDS epidemic. To offer safe circumcision on the scale needed to affect the transmission of HIV within communities, investment is needed for training healthcare workers; developing surgical facilities; obtaining surgical supplies, especially suture material; and sterilising surgical equipment.

In addition, preliminary data from the ongoing trial in Rakai suggest an excess risk of HIV transmission in women from circumcised men who are infected with HIV, perhaps because sexual intercourse is resumed before the wound has fully healed. Therefore, until more definitive data are available, men should be tested for HIV before circumcision, and voluntary testing and counselling services need to be available. Increased uptake of circumcision may cause a shift in the social norm, which might result in stigmatisation of uncircumcised men, who may be seen as less "safe."

A further challenge will be deciding which healthcare providers should be allowed to perform surgery given the dire shortage of trained medical personnel in the developing world. One question is whether only doctors and clinical assistants will be allowed to perform circumcisions, or whether nurses—who are often the only healthcare providers in rural communities—will also be allowed to perform them. Another question is whether health services will work with traditional circumcisers (indigenous practitioners responsible for rites of passage into adulthood or performing circumcision for religious or cultural reasons). Complications of the surgery,

principally sepsis, will place an additional burden on healthcare and referral systems.

What impact will implementation of circumcision have on the public sector health service? Many countries of southern Africa—where health services are underdeveloped and overburdened—will have to rethink how nurses provide antenatal care, contraception services, childhood immunisations, and other essential healthcare services. The experience in rolling out antiretroviral therapy can give an idea of the impact on health services in resource poor settings.

While resources from the President's Emergency Plan for AIDS Relief and the Global Fund to Fight AIDS, Tuberculosis, and Malaria have successfully secured antiretroviral drugs and created the impetus for the rollout of AIDS care, the limited numbers of healthcare personnel have no spare capacity. Providing circumcision must not compromise the provision of other important components of the routine health service. Careful thought needs to be given to whether a dedicated circumcision programme is warranted and, if so, whether it would be sustainable beyond donor funding.

Young, healthy men are not frequent users of health facilities, except for sexually transmitted diseases. Programmes that integrate safe male circumcision with other sexual and reproductive health services will enhance access to health services for young men, offer HIV testing and counselling, and provide behavioural counselling, treatment for sexually transmitted diseases, health education, and interventions to protect women from violence.

Further research will need to define how to initiate such programmes, test different ways of providing circumcision, develop training programmes, and the mechanisms of supplying the necessary equipment. Important considerations are what factors contribute to uptake, how to monitor and deal with adverse events, and the perceptions and sexual behaviour of individuals and communities.

Given the potential benefit of male circumcision, the UNAIDS/WHO guidance should be implemented in the context of the challenges described above.

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