

PAPER

Veracity and rhetoric in paediatric medicine: a critique of Svoboda and Van Howe's response to the AAP policy on infant male circumcision

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ABSTRACT

In a recent issue of the *Journal of Medical Ethics*, Svoboda and Van Howe commented on the 2012 change in the American Academy of Pediatrics (AAP) policy on newborn male circumcision, in which the AAP stated that benefits of the procedure outweigh the risks. Svoboda and Van Howe disagree with the AAP conclusions. We show here that their arguments against male circumcision are based on a poor understanding of epidemiology, erroneous interpretation of the evidence, selective citation of the literature, statistical manipulation of data, and circular reasoning. In reality, the scientific evidence indicates that male circumcision, especially when performed in the newborn period, is an ethically and medically sound low-risk preventive health procedure conferring a lifetime of benefits to health and well-being. Policies in support of parent-approved elective newborn circumcision should be embraced by the medical, scientific and wider communities.

Every man has a right to his own opinion, but no man has a right to be wrong in his facts.

- Bernard Baruch (economic advisor to Woodrow Wilson and Franklin D. Roosevelt), January 6, 1950 issue of the *Deming Headlight*. (Variants of this have been uttered by others subsequently, including the late US Senator Daniel Patrick Moynihan on many occasions.)

INTRODUCTION

The medical ethics of infant male circumcision (IMC) is a topic worthy of debate. It is important that any such discussion relies on an accurate appraisal of medical information and a sound consideration of ethical principles. The consequences of not doing so may include incorrect decision making and flawed policy recommendations, with adverse consequences for public health and disease prevalence, including an increase in preventable serious morbidities and fatalities.

We were dismayed to see the unscientific arguments presented by Svoboda and Van Howe (S&VH) in a recent article in the *Journal of Medical Ethics*.¹ Their article criticised a new affirmative, evidence-based policy statement on IMC developed by the American Academy of Pediatrics (AAP).² In response, the AAP has called for respectful dialogue.³ We feel that the AAP response was too lukewarm to address S&VH's

arguments sufficiently. We therefore considered it important to do so here.

DID THE AAP REALLY FAIL TO RECOMMEND CIRCUMCISION?

In the current climate of radical individualism, devaluation of scientific fact, and promotion of autonomy, where even life-saving childhood vaccines may be refused by parents, there are constraints to what can be formally stated. The new AAP policy states that benefits of neonatal male circumcision exceed risks, that parents should be routinely given accurate information early in pregnancy, and that third party reimbursement is warranted. When taken together, this is clearly consistent with a policy recommendation.

It has been suggested in an *AAP News* article that the new AAP policy may require paediatricians to modify their discussions about newborn health interventions with parents, since 'physicians sometimes can be held accountable for harm that results from not telling patients about an available medical treatment or procedure'.⁴ Documentation that parents have been informed of the risks, benefits and alternatives to newborn circumcision might now be necessary to protect the clinician from litigation should the male newborn go on to develop harmful medical conditions associated with not being circumcised.

OTHER POLICY STATEMENTS

The AAP is a major, possibly *the* most pre-eminent, paediatric authority internationally. It is the only paediatric body to have produced a statement on male circumcision based on current evidence, and its policy was endorsed by The American College of Obstetricians and Gynecologists. The policy has had a flow-on effect with hospitals, such as the Mayo Clinic, updating their position statements.⁵ The Canadian Paediatric Association will soon follow suit with a new policy in 2013. The Centers for Disease Control and Prevention (CDC) has said that it too will release a policy. Indications are that each of those will be supportive of the benefits of IMC. Similar to the AAP's policy, a peer-reviewed policy statement published in 2012 by fellows of the Royal Australasian College of Physicians (RACP), and fellows of other medical bodies on behalf of the Circumcision Foundation of Australia (CFA) concluded that 'Our analysis finds [IMC] is beneficial, safe and cost-effective, and should

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optimally be performed in infancy',⁶ going on to say 'In the interests of public health and individual wellbeing, adequate parental education, and steps to facilitate access and affordability should be encouraged in developed countries'. The CFA's report went further than the AAP's by contrasting the degree of risk of complications with a tally of each of the benefits, concluding that 'A risk-benefit analysis shows benefits exceed risks by a large margin', that 'over their lifetime up to half of uncircumcised males will suffer a medical condition as a result of retaining their foreskin' and that 'The ethics of (IMC) and childhood vaccination are comparable'.

S&VH cite the Royal Dutch Medical Association policy statement in 2010 that, while being strongly opposed to childhood male circumcision, nevertheless, alludes to 'fears that a legal prohibition would result in the intervention being performed by non-medically qualified individuals', which 'could lead to more serious complications'.⁷ S&VH then cite a news media report⁸ as evidence that 'the AAP is firmly out of step with world medical opinion on this issue'. They claim the American Medical Association (AMA) is opposed, citing a 1999 report stating support for the AAP's 1999 policy, not the current one. S&VH later cite various news media reports as evidence that the Finnish, Swedish and German medical associations are opposed, but none of these organisations has produced an objective analysis, as has the AAP.

CITATION OF EVIDENCE

The accusation by S&VH of 'blatant cherry picking of essential evidence' by the AAP is unfounded. The AAP Task Force conducted an extensive review of all the evidence, including publications opposed to IMC. It contrasted well-conducted studies, including randomised controlled trials (RCT), showing benefits, with weak research such as a 'methodologically poor meta-analysis' by Van Howe,⁹ that used contrived source data,¹⁰ and one¹¹ in which numerous flaws have been exposed by experts.¹² If anything, the AAP may have been overly generous in presenting the evidence of those opposed to IMC. The AAP Task Force rated the evidence according to quality and, as is commonplace in any scholarly review, gave greater weight to the better-quality studies in making their decision. It is understandable that the AAP did not give credence to ancient publications, websites, blogs by opponents, opinion pieces, publications already exposed as fundamentally flawed, and other dubious material that S&VH say should have been cited.

ARE THERE LONG-TERM ADVERSE EFFECTS?

S&VH point to various histological studies, and speculate about the implications of such information for sexual function, sensitivity and immunological and protective functions. They cite a Danish study that they claim demonstrates 'a deleterious impact of male circumcision on sexuality',¹³ but omit to mention the study's flaws.¹⁴ By contrast, RCTs showed that by the 2-year follow-up visit, there was no adverse effect,^{15 16} and if anything, an improvement¹⁶ in sexual function, sensation and satisfaction in men after they had been circumcised.

Old studies and an opinion piece by Van Howe are cited in support of claims that IMC affects brain development, physiological parameters, breastfeeding, bonding and sleep patterns. This is followed by unsubstantiated speculation that the reason some infants do not cry during the procedure is because they go into shock. Given that currently local anaesthesia is strongly advised for IMC, this claim is surprising. A well designed longitudinal study in New Zealand that examined post-IMC outcomes in males followed-up over two decades after birth found

no differences in early infant feeding, health and cognitive ability between those who were circumcised at birth and those who were not.¹⁷

ETHICS OF CIRCUMCISION OF MALE MINORS

S&VH 'call into question the AAP's diligence in carrying out its medical and ethical responsibilities'. Ethicists have argued that male circumcision, rather than being a violation of ethics, should be allowed because not to do so would cause the child or man to be placed at far greater risk of diseases and other adverse medical conditions, some fatal, than the risks associated with the circumcision procedure itself.¹⁸⁻²⁰ There are, moreover, strong biomedical arguments favouring *infancy* as the best time to circumcise, because the young male benefits from immediate protection against urinary tract infection (UTI), kidney damage, phimosis, paraphimosis, balanitis, other inflammatory skin conditions, and inferior hygiene.²¹ Parents can, moreover, be sure of ongoing protection into the teenage and adult years against local genital disorders, sexual problems, genital cancer and several common sexually transmitted viral infections, such as high-risk human papillomavirus (HPV) and genital herpes, and less common sexually transmitted infections (STI) such as HIV.²¹

The authors' claim that 'a healthy foreskin poses no threat either to personal or to public health' is untrue, given that all the above conditions occur in males with a foreskin that is either initially healthy or, in the case of HIV infection, balanitis and some genital cancers not affecting the foreskin, continues to be healthy.

S&VH cite a 1944 case that did not involve the issue of circumcision to argue that a boy should be allowed to make his own decision to be circumcised when older. Seventy years later IMC continues to be one of the most common surgical procedures in the USA.²² The small likelihood of complications is even smaller when performed in infancy. S&VH invoke arguments based on the right to autonomy and bodily integrity, failing to recognise that bodily integrity as such is not generally accepted as a fundamental right. The oft-cited (by opponents of IMC) United Nations Convention on the Rights of the Child, in its document number 44/25 dated 20 November 1989 holds at Article 14 (2) that parties to the Agreement 'shall respect the rights and duties of the parents and, when applicable legal guardians, to provide direction to the child in the exercise of his or her right in a matter consistent with the evolving capacities of the child'.²³ This means that for infants with no effective capacity, decisions are entirely the duty of the parents. Exceptions include failing to act in the interests of children or situations where a medical procedure or withholding a medical procedure causes serious harm. Since IMC is a recognised preventive health measure that is not prejudicial to the health of the child it does not violate Article 24/3 of the United Nations Convention of the Rights of the Child. That Article does not deal specifically with circumcision. If it had, then countries with high male circumcision rates might not have been signatories.

By arguing that IMC can be delayed until adulthood, the authors ignore the fact that many of the disorders associated with the uncircumcised state, including severe UTIs, balanitis and phimosis, occur in early childhood. Furthermore, they erroneously equate the risks and surgery involved in an IMC with adult circumcision. Adult circumcision is a more complex procedure, poses higher risks of complications, may require use of general anaesthesia, disrupts work or studies due to time off, involves a longer recovery period, necessitates abstention from sex, raises psychological issues for the male contemplating the

procedure, and is more costly. Obviously, an adult cannot consent to his own infant circumcision.⁴

IMC is reasonable since the 'stringent set of criteria' listed by S&VH are satisfied for this prophylactic, 'non-therapeutic' surgical procedure, namely, the substantial danger to public health from infections and illnesses caused if it is not performed, and the proven effectiveness of circumcision in preventing these. Since 'the intervention's effectiveness [is] well established', and IMC is simple, safe and confers a wide range of benefits, one might logically conclude that IMC is the 'most effective', 'most appropriate', 'least invasive' and 'most conservative way of achieving the desired public health objective' desired. While few would claim that IMC is a panacea, it can be regarded as a powerful tool in the armamentarium of disease preventive measures. Moreover, prevention is always better—and usually less expensive—than a cure.

S&VH divert attention to whether or not the male might grow up to engage in risky sexual behaviours that might result in infection(s) against which male circumcision has been shown to afford partial protection. The same argument could be made for opposing current programmes for vaccinating all girls 11–14 years old, and more recently boys, against two oncogenic types of HPV responsible for 70% of cervical cancers and a large proportion of anal cancers. In the case of IMC the benefit is not just partial protection against several STIs, but the common conditions referred to above, including penile cancer against which the HPV vaccine can at most be only 35% effective.²⁴

While condoms reduce the risk of most STIs, their use tends to be inconsistent and sometimes infrequent or negligible,²⁵ even when provided free.^{26–28} Self-reported sexual behaviour is, moreover, often unreliable.²⁹ The USA has some of the highest levels of STIs and teen pregnancies among high-income countries, demonstrating that condoms are not fully used, and the level of sex education is inadequate.^{30–33} Even when used consistently, condoms are not completely effective.³⁴ The protection condoms afford varies for different STIs, offering only slight protection against HPV,^{35–37} but 80–90% protection against HIV.³⁸ In a large-scale roll-out of adult male circumcision, there was 80% reduction in HIV incidence.³⁹ A RCT showed that circumcision provides 98% protection against the acquisition of flat penile lesions caused by oncogenic types of HPV, most notably HPV56 (frequency 29%), a type not targeted by vaccines, HPV16 (26%), and others.⁴⁰ A meta-analysis of 21 observational studies showed that circumcision confers 43% protection against genital infection by high-risk HPV for men.⁴¹ The protection seen in two large RCTs was 34–42%.^{42–44} In men who have sex with men who predominantly practice insertive anal intercourse, circumcision had a 57% protective effect against high-risk HPV16.⁴⁵ RCT data show male circumcision partially protects female partners against acquisition of all oncogenic HPV types.³⁵ Because neither male circumcision nor condoms are fully protective, it is well recognised that both must be used together.

Similarly, circumcision and vaccination should be seen as synergistic interventions; since each offer only partial protection, both should be used to help reduce the risk of HPV infection. Similarly, circumcision and condoms both have a place in HIV prevention strategies, as well as in strategies to reduce some other STIs.^{2 6 21 24 46 47}

LEGAL CONSIDERATIONS

S&VH refer to a 'landmark ruling by a regional court in Cologne, Germany', failing to mention that this court had

minimal, if any, authority to set precedent in Germany, much less in the rest of Europe or the world. This case has been widely misconstrued in the English-speaking news media. The court actually held that the defendant (the person who performed the circumcision) was not guilty of a criminal act because the legality or illegality of circumcision is unclear, being among the '...questions of law ... not answered unanimously within the literature, especially in cases in which the legal position is unclear as a whole', going on to say 'This is the case here. The question whether circumcision for religious reasons at the request of the parents is lawful is not answered uniformly in the case law and literature'.⁴⁸ While the court discussed whether IMC might be considered a human rights violation, it did not clearly make that declaration. S&VH note the response of the German parliament, which introduced a bill legalising the circumcision of minor male children in Germany.⁴⁹

In response to an allegation that the AAP has a 'cultural bias' favouring IMC,⁵⁰ the AAP responded that Europe has a cultural bias *against* circumcision, while the USA is more neutral, balanced and evidence based.⁵¹

In attempting to imply IMC violates human rights, S&VH refer to US law, and cite sections of the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, and the Convention on the Rights of the Child. But none of those documents refer to IMC. While over a million boys are circumcised each year in the USA,²² surgical mishaps and lawsuits arising are rare.

DID THE AAP OMIT IMPORTANT FINDINGS?

S&VH criticise the AAP report for being over 2 years out of date, but if it had included a further 2 years of evidence then the report's recommendations could have been even stronger. The AAP report did consider all available evidence up to 2010 and appropriately excluded from further analysis any studies judged as being of low quality based on accepted international scientific criteria. The 35 mostly isolated case reports S&VH cite fall into the latter category. We find, moreover, no substance to the claim of geographical bias in the data the AAP presented.

Rather than 'cherry-picking', the AAP did describe the findings of a sensitivity study,¹¹ but failed to point out the serious flaws in that oft-cited (by circumcision opponents) paper.¹² The AAP, nevertheless, cites two large RCTs, ignored by S&VH, that found no adverse effect of circumcision on sexual function, sensitivity and satisfaction.^{15 16}

In highlighting a trial that found an increase in HIV transmission to women after the men had been circumcised,²⁸ S&VH fail to mention that the 'increase in risk' was not statistically significant, the trial was terminated early due to futility, and that the non-significantly higher HIV acquisition in some female partners was likely due to a failure by men to adhere to advice not to resume sexual intercourse until their circumcision wound had healed. S&VH should have cited instead a meta-analysis of several thousand women in 19 relevant studies.⁵² This found HIV prevalence to be non-significantly *lower* (by 20%) in women whose male partner was circumcised.⁵² Also ignored was a study of several countries in sub-Saharan Africa that found women were at 38% lower risk of HIV infection if their male partner was circumcised,⁵³ and a modelling study predicting male circumcision would confer a 46% reduction in male-to-female HIV transmission in a general population setting.⁵⁴

As for penile cancer, apart from 'a narrow foreskin' that increases risk 12-fold, additional risk factors found more commonly in uncircumcised men are balanitis and smegma, which

increase risk four and threefold, respectively.⁵⁵ The prevalence of oncogenic HPV is twice as high in uncircumcised men.⁴¹

ARE THERE 'LOGICAL LEAPS' IN THE AAP'S STATEMENT?

We agree with S&VH that the AAP should have conducted a cost-benefit analysis. In fact, if it had, then their policy might have been stronger. An old cost analysis that concluded cost-benefit was neutral,⁵⁶ did not consider all the benefits.⁵⁷ More recently, a cost analysis of outcomes including STIs and UTIs found that IMC is cost saving, in the amount of US\$4.4 billion for 10 annual birth cohorts.⁵⁸ The AAP did cite a study by the CDC that found IMC to be cost saving for HIV prevention in the USA.⁵⁹ Other cost analyses have found that non-coverage by Medicaid of IMC will lead to a net increase in costs to the health system.⁶⁰

S&VH claim condoms and antiretroviral therapy are cheaper than male circumcision for HIV prevention. Van Howe's previous calculations that condoms would be cheaper,⁶¹ were shown to be erroneous.⁶² Recent analyses have found pre-exposure prophylaxis to be less cost effective than male circumcision for HIV prevention.⁶³ Circumcision is more cost effective than antiretroviral treatment.⁶⁴

We agree that the AAP should have performed a risk-benefit analysis. If it had, as others have done,²¹ it would have discovered that the benefits exceed the risks by such a large margin that the AAP's advice that the 'health benefits are not great enough to recommend routine circumcision of newborn males' is conservative. An offer of IMC made routinely to parents is warranted by current evidence. The incidence of complications is very low based on considerable data. In the USA and Israel, rates of 0.2–0.3% for neonatal circumcisions have been reported.^{65–67} A systematic review and meta-analysis of 52 studies from 21 countries (6 being Arabic) found a median frequency of any complication of 1.5% (range 0–16%) for IMC, and 6% (range 2–14%) for children postinfancy.⁶⁸ The great majority of these complications consist of minor bleeding and mild local infections, both of which are easily managed.

S&VH claim that IMC leads to a delayed complication—meatal stenosis—in 5–15% of males, citing 23 publications. Yet, findings from those isolated case reports and case series, often with no comparison, are inconsistent. They cite a French study that in fact showed no association.⁶⁹ Van Howe himself reported no statistically significant difference in meatal stenosis between uncircumcised and neonatally circumcised boys.⁷⁰ By unconfirmed visual inspection, Van Howe diagnosed 7% of boys aged 2–12 years old with meatal stenosis. This condition can be a complication of balanitis xerotica obliterans (lichen sclerosis) in uncircumcised males.⁷⁰ Circumcision protects against balanitis. He stated that various authorities, including the AAP, have dismissed the association of circumcision with meatal stenosis and its clinical importance. A critique of Van Howe's study pointed out that since diagnosis of meatal stenosis itself is highly subjective, the issue of whether circumcision might be responsible remains controversial.⁷¹

The assertion that if the AAP recommended circumcision 'then it would potentially bear responsibility for any complications or harm resulting from the surgery' is untrue. If it were true then the AAP would be responsible for any medical intervention it recommends, including childhood vaccination. Medical bodies such as the AAP are expected to formulate policies based on the best available evidence. If they fail in their duty to do so then they are liable to legal action for harms arising from their negligence in not presenting a balanced evidence-based report.

Since IMC is very safe, has a high benefit versus risk, is highly cost effective, has little or no long-term adverse side effects, and can be supported on ethical grounds, it is reasonable to recommend 'third party payments'. Cost analyses showing that third party payments for circumcision will save medical insurance companies money over time should lead to support by third party payers and for Medicaid coverage.^{72–73} Circumcision and vaccination are each 'elective procedure(s)'. Furthermore, IMC is not 'purely cosmetic surgery' as S&VH suggest.

The current AAP policy represents a significant change in direction from its more neutral policy in 1999 and earlier policies that opposed IMC, and now accords with that of the American Urological Association.⁷⁴

CIRCUMCISION AND HIV INFECTION

Universally offered medical male circumcision would have prevented millions of cases of sexually transmitted HIV. Three large, well-designed RCTs in sub-Saharan Africa have conclusively demonstrated the male circumcision protects against HIV infection, as well as several other STIs such as oncogenic HPV, genital herpes, genital ulcer disease and trichomonas. S&VH make claims undermining the validity of the trials, while failing to point out that such claims have been convincingly rebutted as fallacious in multiple published critiques.^{62–75–79} Thus, while it is reasonable that other points of view be aired for debate, it is dishonest to pretend that these have any merit when they have been so carefully and fully discredited by experts. One of the claims that S&VH repeat is that male circumcision leads only to an 'absolute risk reduction' in HIV acquisition of 1.3%,⁸⁰ demonstrating a naive understanding of epidemiology and the conduct of RCTs.⁷⁶ Published critiques have also dismissed as erroneous the claim that iatrogenic exposure in health clinics in Africa is a common source of infection.^{62–75–79} Major international health organisations continue to support the rollout of male circumcision in high HIV epidemic settings. In one of the trial sites, Orange Farm, South Africa, by 3 years the effectiveness of male circumcision in protecting against HIV infection in men aged 15–34 years reached 80%.³⁹

Further epidemiological naivety is apparent when S&VH attempt to draw a connection between high HIV prevalence and high male circumcision prevalence in the USA. Research has shown that male circumcision protects against the heterosexual transmission of HIV infection in the USA.⁸¹ Claims that male circumcision is irrelevant in developed countries have been discredited.⁸² While it is true that babies are not at risk of sexually transmitted HIV, ensuring they are equipped with the protective effect of a circumcised penis when they enter the sexually active years of life makes logical sense, especially given the substantial barriers posed to adolescents and adult males who desire a circumcision procedure.²¹ Authorities have not claimed that male circumcision is a stand-alone panacea, but rather have continued to emphasise that it is a part of a package of preventive measures that include condom use and education about other safer sex choices.

PROTECTION AGAINST HPV AND PENILE CANCER

Although S&VH select several studies to support their claim that male circumcision does not prevent oncogenic types of HPV, some of these found, in fact, that circumcision reduced HPV prevalence,^{83–84} or increased HPV clearance,⁸⁵ while others did not even study circumcision.⁸⁶ Better quality studies including findings from RCTs,^{40–42–44–87–90} and meta-analyses of all studies,^{41–91–92} not just a selected few, have shown that male circumcision has a substantial protective effect against oncogenic

types of HPV (see penile cancer review⁵⁵). The protective effect is strongest for the glans/corona (53%) and urethra (65%).⁹² The RCT data showing a 98% protection against flat penile lesions caused by multiple oncogenic HPV types were referred to earlier.⁴⁰

S&VH cite Van Howe's meta-analysis in 2007 on HPV, but fail to mention a critique showing it to be 'biased, inaccurate and misleading'.⁹¹ S&VH cite a 2013 meta-analysis of various STIs by Van Howe⁹³ that found reduced risk of HPV across all studies. The separate analyses Van Howe conducted for 'high risk HPV', and for studies using his preferred sampling method ('selective HPV') were, however, incomplete: the 'high-risk HPV' analysis included only four of the 20 studies he listed (the three RCTs being notably absent from his Table 13), as was the case for his 'any HPV' analysis (see footnotes to that Table). He overlooked the fact that oncogenic HPV types, unlike low-risk types that cause warts, congregate at the tip of the uncircumcised penis, with important implications for penile cancer, as well as HPV transmission to women. Van Howe's data adjustments, flawed statistics and manipulations, also seen in an earlier meta-analysis of sexually transmitted urethritis⁹ that used false source data,¹⁰ appear to be aimed at obtaining a predetermined outcome.

In an additional report of a meta-analysis of male circumcision and protection against penile cancer that was not cited by S&VH, the authors stated that their assumptions were overly conservative because penile cancer treatment can include circumcision.⁹⁴ S&VH refer to figures for annual incidence of penile cancer of approximately 0.8 per 100 000 while disputing the AAP's figure for *lifetime risk in an uncircumcised man* of '1 in 909'.² The 1 in 1736 figure that S&VH present applies, however, to a US population consisting of both uncircumcised and circumcised men. They provide a risk calculation for circumcised males but fail to do the same for uncircumcised males, with which they would have arrived at a figure similar to the AAP's. While uncommon, penile cancer in uncircumcised men is certainly not rare.²⁴

S&VH rely on one of the weakest epidemiological methods, namely intercountry comparisons, by making the contentious claim that 'what remains unexplained is that the rates of penile cancer in the USA exceed those in Denmark, Norway, Finland and Japan, where infant circumcision is rare'. One could equally well point to the much *lower* rate of penile cancer in the USA compared with other countries with low circumcision rates, such as those in South America, Africa and India. In a 1999 paper, Van Howe *criticised* 'map studies', stating that they 'ignore a number of important risk factors including cultural sexual practices ... (and exhibit) inaccuracy and lack of power'.⁹⁵

S&VH seem to misunderstand the effectiveness of the HPV vaccine against penile cancer. Even if administered to girls and boys universally, it will reduce penile cancer by 35% at most.²⁴ This is because current vaccines target only two of the 15 or so types of HPV regarded as high risk and, furthermore, only half the penile cancers contain HPV.⁹⁶ This is also the case for vulval cancers, with the quadrivalent HPV vaccine being only 18–25% effective in reducing vulval intraepithelial neoplasia.⁹⁷ While high HPV vaccination uptake by girls prior to sexual exposure might reduce cervical cancer by up to 70%, vaccine uptake to date in the USA has been low.⁹⁸ In Australia, as vaccine coverage has increased, visible warts caused by low-risk HPVs have declined substantially,⁹⁹ but the reduction in high-grade lesions thus far has been very small (0.38%).¹⁰⁰ Given that neither HPV vaccines nor male circumcision can provide complete protection from HPV, logically, both should be advocated for cervical cancer prevention.²⁴

PROTECTION AGAINST OTHER STIs

In examining the relationship between male circumcision and other STIs, S&VH again cite the recent meta-analysis by Van Howe, in which adjustments to data, exclusion of studies, including RCTs, the selective nature of the analyses performed, often with disregard to biological and aetiological mechanisms, and statistical flaws undermine the claim that circumcision increases STI risk.⁹³ Meta-analyses by others have found male circumcision to be protective against ulcerative STIs and HPV.^{41 91 101}

PROTECTION AGAINST UTIs

Most authorities regard infant UTI as common. S&VH falsely claim, however, that infant UTI is 'rare', and neglect to mention the 10-fold reduction in UTI risk conferred by neonatal circumcision.¹⁰² They selectively cite an outlier study in which the higher relative risk of UTI in uncircumcised boys was only 3.7,¹⁰³ so enabling them to understate the number needed to treat (NNT) value as being 195. Data from meta-analyses reported NNT values for infants of 100 or lower,^{102 104} and a recent large study that included thorough clinical testing estimated that 50 infants need to be circumcised to prevent one UTI.¹⁰⁵ By age 7 years, up to 5% of uncircumcised boys may have had a UTI. Lifetime UTI prevalence in uncircumcised males has been estimated at 32%.¹⁰² Paediatric UTI can lead to significant morbidity,¹⁰⁶ including sepsis and death.¹⁰⁷ Approximately half the febrile UTI cases in infancy are associated with renal parenchymal disease,¹⁰⁸ which exposes the infant to serious, life-threatening medical conditions later in life.^{109 110}

Rather than UTIs being 'easily and effectively treated with oral antibiotics', infants aged under 2 months (probably the highest risk group) almost invariably present with fever. In addition to being subjected to a catheterised urine specimen, these babies may undergo blood draws and spinal taps. Many are treated with intravenous antibiotics pending culture results which, if positive, mean hospital admission and ongoing intravenous antibiotics. None of this is minor and involving simple treatment with oral antibiotics that would apply for an older child or adult.

Using their low estimate of UTI prevalence and other assumptions, S&VH embark on a foray of calculations that lead them to make the curious claim that because of meatal stenosis requiring meatotomy 'between US\$9750 and US\$58 500 would have to be spent to save approximately US\$218', the latter figure being the purported average cost of an IMC plus oral antibiotic treatment. S&VH ignore calculations showing that if IMC rates were to decrease to 10%, the resulting increase in infant UTIs would lead to an additional US\$32 million in direct medical treatment costs for each annual birth cohort in the USA,⁵⁸ demonstrating a portion of the considerable lifetime cost savings conferred by IMC.

CULTURAL CONSIDERATIONS

S&VH claim the AAP's new policy exhibits 'cultural bias in favour of circumcision', and this 'would seem to put the AAP firmly out of step with world medical opinion on this issue', but cite as support a blog about the German Paediatric Association's view.⁸ As stated, any accusation of cultural bias⁵⁰ would better apply to Europe's opposition to IMC.⁵¹

Although we agree with S&VH that the AAP should have confined its report and recommendations to medical issues, we disagree with their claim that IMC 'lack[s] a sound foundation in evidence-based medicine and in medical ethics'. A strong evidence base and ethical considerations firmly underpin the AAP

Task Force's statement favouring IMC, but their statement would perhaps have been stronger had it not included a seemingly tangential acknowledgement of the existence of religious, cultural and personal preferences. Nevertheless, we can understand that making a recommendation about IMC inevitably requires going beyond what the data show, because people differ with regard to how much emphasis they put on risks versus benefits versus other issues.

THE 'DEATHS FROM CIRCUMCISION' FALLACY

It is categorically untrue that 'over 100 boys die each year' from IMC in the USA. This claim stems from a calculation that assumes that the sex difference in infant mortality (number of male infant deaths minus number of female infant deaths) in the USA is entirely due to IMC.¹¹¹ No evidence for this was provided. Furthermore, a similar sex difference is observed in countries where IMC is rare, arguing against this assertion.⁸²

CONCLUSION

Our analysis of S&VH's arguments leads us to conclude that their article itself suffers from, as they say about the AAP's policy, a 'partisan excursion through the medical literature, improper analysis of available information, poorly documented and often inaccurate presentation of available findings, and conclusions that are not supported by the evidence'. The references they cite in support of various claims include ones of low quality, some written by lay activists rather than medical professionals, opinion pieces on websites, and others that, while having been published in medical journals, have been resoundingly criticised and shown to be erroneous. S&VH's claims thus fail to withstand scrutiny and should be rejected. Better informed medical, legal and ethical opinion supports the evidence-based conclusions of the AAP's 2012 policy statement. Considering the totality of the evidence, the AAP policy could be criticised for being too conservative.

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Veracity and rhetoric in paediatric medicine: a critique of Svoboda and Van Howe's response to the AAP policy on infant male circumcision

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