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## PERSONAL VIEWPOINT

# The 2010 Royal Australasian College of Physicians' policy statement 'Circumcision of infant males' is not evidence based

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### Key words

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### Abstract

Infant male circumcision (MC) is an important issue guided by Royal Australasian College of Physicians (RACP) policy. Here we analytically review the RACP's 2010 policy statement 'Circumcision of infant males'. Comprehensive evaluation in the context of published research was used. We find that the Statement is not a fair and balanced representation of the literature on MC. It ignores, downplays, obfuscates or misrepresents the considerable evidence attesting to the strong protection MC affords against childhood urinary tract infections, sexually transmitted infections (human immunodeficiency virus, human papilloma virus, herpes simplex virus type 2, trichomonas and genital ulcer disease), thrush, inferior penile hygiene, phimosis, balanoposthitis and penile cancer, and in women protection against human papilloma virus, herpes simplex virus type 2, bacterial vaginosis and cervical cancer. The Statement exaggerates the complication rate. Assertions that 'the foreskin has a functional role' and 'is a primary sensory part of the penis' are not supported by research, including randomised controlled trials. Instead of citing these and meta-analyses, the Statement selectively cites poor quality studies. Its claim, without support from a literature-based risk-benefit analysis, that the currently available evidence does 'not warrant routine infant circumcision in Australia and New Zealand' is misleading. The Statement fails to explain that performing MC in the neonatal period using local anaesthesia maximises benefits, safety, convenience and cost savings. Because the RACP's policy statement is not a fair and balanced representation of the current literature, it should not be used to guide policy. In the interests of public health and individual well-being, an extensive, comprehensive, balanced review of the scientific literature and a risk-benefit analysis should be conducted to formulate policy.

## Introduction

In September 2010, the Royal Australasian College of Physicians (RACP) posted on its website a Policy Statement on infant male circumcision (MC) that concluded, in the absence of a risk-benefit analysis, that 'the frequency of diseases modifiable by circumcision, the level of protection offered by circumcision and the complication rates of circumcision do not warrant infant circumcision in Australia and New Zealand'.<sup>1</sup> In recent years, there has been a substantial increase in scientific evidence in support of infant MC as a sensible public health measure, leading to calls in Australia<sup>2,3</sup> and the USA<sup>4,5</sup> for infant MC to be encouraged.

Here, we report our findings after a critical assessment of this policy statement.

## Methods

We carried out a comprehensive evaluation of the RACP's Policy Statement in the context of the research field. Length limitations preclude discussion of all flaws identified nor the inclusion of all references in support of our arguments.

## Results

### Functions of the foreskin

The 'Executive Summary' of the Statement says 'it is recognised that the foreskin has a functional role'. In the section on function it states that the foreskin 'exists to protect the glans penis'. Even if true, this has little relevance to humans who, unlike other mammals, wear undergarments. It then goes on to say that 'the foreskin is a primary sensory part of the penis, containing some of the most sensitive areas of the penis'. Studies in support of the claim have been discredited.<sup>6,7</sup> In contrast, well-conducted studies have found no adverse effect on penile sensitivity,<sup>8</sup> sensation,<sup>9</sup> sexual satisfaction,<sup>10</sup> premature ejaculation,<sup>11</sup> intravaginal ejaculatory latency time<sup>12</sup> and erectile function.<sup>13</sup> The Statement misrepresents two randomised controlled trials (RCTs), one of which reported enhanced sexual experience after circumcision<sup>14</sup> by saying that they 'reported no evidence of sexual disadvantage or dysfunction after circumcision'.

After citing a NZ study showing penile problems are more common in uncircumcised boys, the Statement

contrasts this with a subjective *survey* of men who claimed that their sexual problems were caused by their circumcision as a child.

### Urinary tract infection

The Statement comments that (i) 'UTI [urinary tract infection] generally causes an acute febrile illness in boys, with 25% of boys with UTI hospitalised and receiving parenteral antibiotics. Pyelonephritis occurs in 80% of febrile infants and young boys with UTIs and permanent kidney damage presents in 5%', (ii) UTI 'occurs in up to 4% of boys, predominantly in the first year of life' (although later saying that '111 circumcisions would be required to prevent one UTI', i.e. 0.9%), and (iii) 'circumcision reduces the risk of UTI by 10-fold'. Such statements should lead to serious consideration of circumcision soon after birth. But instead, the RACP's document concludes that 'only boys at high risk of recurrent UTI would benefit from circumcision'. Although 'recurrence of UTI [occurs] in 35% of boys', it says 'in cases [of urinary tract abnormalities] . . . circumcision should be considered, as . . . only 11 circumcisions would be required in boys with recurrent UTI and four in boys with high grade VUR [vesicoureteral reflux] to prevent one UTI', failing to point out that most children with renal scarring do not have VUR<sup>15</sup> nor that circumcision protects against recurrence.<sup>16</sup> Advice that MC should only be recommended in boys with recurrent UTI or VUR has, moreover, been criticised as flawed.<sup>17</sup>

In support of UTI being 'especially [common in uncircumcised boys] with underlying urinary tract abnormalities', the Statement cites articles that do not address this. However, an RCT that found 96% protection<sup>18</sup> and a Western Sydney study that found UTI in 6% of uncircumcised boys but in only two (1%) who were circumcised<sup>19</sup> were neglected. Although MC provides 80% protection against UTIs in US men,<sup>20</sup> the Statement fails to consider the cumulative protection conferred by MC against UTI over the lifetime.

UTI is the cause of fever in over 20% of uncircumcised boys but only 2% of circumcised,<sup>21</sup> bacteriuria being evident in 36% versus 1.6%, respectively. 'Pyelonephritis occurs in 80% of febrile infants and young boys with UTI',<sup>1</sup> and causes renal scarring in 30–70%.<sup>22</sup> This exposes them to serious, life-threatening conditions later in life, including end-stage kidney disease in 10%.<sup>23</sup> This issue is obfuscated by *only citing frequency of this in infancy* of '1 in 20 000', using as support a magazine article.<sup>1</sup>

Because UTIs are common and are often associated with long-term morbidity and potential mortality, prevention by circumcision seems worthy of recommendation by the RACP.

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## Sexually transmitted infections

The Statement's claim that there is 'no difference in the proportion of circumcised and uncircumcised men reporting ever being diagnosed with any sexually transmitted infection (STI), bacterial STI, or viral STI' is demonstrably false. The *surveys* cited either did find higher STI in uncircumcised men or neglected common STIs. It cites seroprevalence data for herpes simplex virus type 2 (HSV-2) or human papilloma virus (HPV) in NZ, failing to consider that this reflects prior exposure rather than incident infection, which is higher in uncircumcised men because circumcised men clear HPV faster.<sup>24</sup> The positive RCT evidence that MC reduces HPV and HSV-2 infection is misrepresented in the Statement merely as 'follow-up of adult circumcision'. In mentioning 'lower rates of other infections', it cites a study showing association of HSV-2 with higher human immunodeficiency virus (HIV) not data on MC. It fails, moreover, to cite the reference<sup>25</sup> for a meta-analysis of 26 studies that found lower syphilis, HSV-2 and chancroid in circumcised men. It neglects a US study that found 2.8-fold higher HSV-1 seroprevalence in uncircumcised men<sup>26</sup> and RCTs showing protection against genital ulcer disease, including in HSV-2 seronegative men.<sup>27</sup>

Although it recognises that circumcision is a protection 'against STIs to males, in high-risk populations', it then states on page 13 'in low prevalence populations such as Australia and New Zealand circumcision does not provide significant protection against STIs and HIV and is less effective than safe sex practices'. These comments ignore the fact that in Australia and NZ, (i) 25% of men have been infected with oncogenic HPV and 8% with HSV-2, each of which could have been ameliorated if MC had been performed prior to sexual debut; (ii) MC prevalence is decreasing at the same time as males not circumcised in infancy continue to enter sexually active age groups;<sup>28</sup> (iii) number of sexual partners is rising, but condom use is not, coinciding with an increase in STIs;<sup>29</sup> (iv) condoms, while helpful, vary in efficacy against different STIs, being only partially protective against HPV,<sup>30</sup> and are not used at all or are used only intermittently by many people;<sup>31</sup> (v) whereas condoms have to be applied each time, MC lasts a lifetime; and<sup>2</sup> (vi) infant MC ensures that protection is in place prior to sexual debut.

On the available evidence, a conclusion favouring MC for STI reduction should have been made.

## HIV/AIDS

Although the Statement cites RCT evidence and a Cochrane review attesting to the strong protection afforded by MC against female-to-male HIV infection

instead of citing meta-analyses that support the RCT data, it selectively cites a population survey that did not correct for confounding factors, not mentioning that this nevertheless found much lower HIV in men circumcised in childhood. As pointed out by one of the meta-analyses,<sup>32</sup> MC satisfies six of the nine criteria of causality outlined by Sir A. B. Hill. This includes strong biological support.<sup>33,34</sup>

Its claim that early cessation of the RCTs may overemphasise the benefit is not supported by follow-up data, which indicates an ongoing *increase* in the protective effect to 73% after 5 years, thus making MC as effective as vaccines against influenza, and almost as high as the 80% protection afforded by condoms if used consistently and properly.<sup>35</sup> So early stopping may have *underestimated* the effect of MC. Recent data from the large-scale roll-out of MC in a high prevalence setting in South Africa has found that MC's protective effect is 76%.<sup>36</sup>

Whereas the Statement says it is 'still not clear' about the relevance of the trial data to Australia and NZ, in the USA, the protective effect of MC against HIV is just as great.<sup>4,37</sup> Heterosexual contact now accounts for 10% of new HIV infections in the USA and 23% in Australia, 31% of the latter being in Australian-born individuals.<sup>38</sup> In Australia, it was calculated that adult MC should be cost-effective for HIV prevention in men who have sex with men.<sup>39</sup> Only those men who are insertive-only are protected if circumcised.

By selectively citing an outlier study, the Statement misleadingly suggests that MC increases infection in women, ignoring superior evidence that transmission to women is 20–46% lower if their male partner is circumcised.<sup>40,41</sup>

The Statement also ignores affirmative statements by the Centers for Disease Control and Prevention,<sup>4,42</sup> whose analyses have shown infant MC to be cost-saving for HIV prevention in the USA.<sup>43</sup> Cost of MC is a fraction of that of antiretroviral treatment. Prevention by MC should be part of the primary focus in the absence of a cure or a prophylactic vaccine, and the considerable lifetime expense and compliance required for antiretroviral therapy.

## HPV and cervical cancer

The comment that male prevalence of HPV is '13–52%'<sup>1</sup> indicates an *epidemic* that should concern the RACP. Although cervical cancer in monogamous women whose male partner had six or more partners or was aged <17 at first sexual intercourse was four times higher if the man was uncircumcised, the Statement ignores the twofold higher risk level of male partners with an *intermediate* sexual behaviour risk index.<sup>44</sup> These categories encompass most men in Australia and NZ.

The Statement also ignores a meta-analysis of 14 studies, including two in Australia, of cervical cancer and MC prevalence,<sup>45</sup> and intercountry comparisons that showed lack of MC was the strongest risk factor.<sup>46</sup> RCT data now show that MC affords 98% protection against HPV-induced flat penile lesions<sup>47</sup> and 28% lower acquisition of HPV in the female partners.<sup>48</sup>

The Statement speculates that HPV vaccination is 'expected to dramatically [*sic*] reduce the incidence of HPV infection and cervical cancer' and the 'virtual eradication of cervical cancer' but fails to indicate that the vaccine targets only two oncogenic HPV types present in 70% of cervical cancers or that population prevalence of these types are now rarer,<sup>49</sup> so currently available vaccines alone will never eradicate cervical cancer.

The Statement's speculation about 'extension of the [HPV] immunisation programmes to boys' ignores negative cost-effectiveness analyses.

### Penile cancer and prostate cancer

Instead of saying 'cancer of the penis is extremely rare' the Statement should note the *lifetime risk in an uncircumcised man*, which is 0.1% rather than the '1 in 250 000' annual incidence figure. Although phimosis increases risk 12-fold,<sup>50</sup> the Statement fails to mention that phimosis affects 10% of uncircumcised men,<sup>3</sup> that smegma and balanitis increase risk 3.0 and 3.6-fold, respectively<sup>50</sup> or that penile cancer is virtually eliminated by infant MC.<sup>50</sup> The Statement omits a large meta-analysis that found MC halved the risk of oncogenic HPV seen in half of penile cancers,<sup>45</sup> as well as extensive RCT data.<sup>50</sup>

For prostate cancer rather than lifetime prevalence (one in nine), the Statement cites, misleadingly, annual incidence figures of 1 in 700. Although some studies have failed to find an association of MC with prostate cancer, its comment that 'circumcision has not been demonstrated to decrease the risk of prostate cancer' diminishes the evidence that MC does have a protective role.<sup>3,50</sup>

### Hygiene

Despite hygiene being the main reason why Australian parents want their baby boys circumcised,<sup>51</sup> there is no mention in the Statement of superior hygiene if a boy is circumcised, as supported by research evidence.<sup>3</sup> Nor is there any mention of reduced risk of inflammatory skin conditions nor the ability of circumcision to prevent phimosis and paraphimosis.

### Care of the foreskin

The instructions for worried parents would be unnecessary if the boy had been circumcised in infancy. Saying

'most boys can fully retract their foreskin by puberty' ignores medical problems in the 10% who cannot.<sup>3</sup>

### Complications

The reference to complications affecting '1–4%' applies to circumcision of older children and men, not infants (1%).<sup>52</sup> Complications in infants are virtually all minor and immediately treatable. The higher rate in older males is another argument for circumcision in infancy.<sup>5</sup>

### Analgesia [*sic*]

The Statement mentions general anaesthesia, but this involves unnecessary risks, including neurotoxicity.<sup>53</sup> MC is best performed using a *local* anaesthetic early in infancy when the infant is less mobile.<sup>54</sup>

The Statement claims that pain in neonates has 'long-term consequences, even if not rooted in conscious memory' but provides no supporting evidence for this claim. Neonates exhibit lower pain scores than older infants,<sup>55</sup> and pain can be negligible with local anaesthesia.<sup>54</sup>

### Ethical consideration of neonatal circumcision

The Statement's assertion of the right of parents to have their son circumcised when 'it can reasonably be expected to produce more benefits than burdens (in the long term) for the child' seems tendentious when it is recognised that protection against kidney damage caused by UTIs is greatest in the first few months of life.<sup>5,22</sup> Infant MC provides immediate protection against other common paediatric conditions, such as phimosis, paraphimosis, balanoposthitis, foreskin tearing<sup>3</sup> and in later years, the other benefits earlier. MC in infancy is safer, simpler, quicker, cheaper and more convenient; healing is fast, and the cosmetic result is superior to MC later.<sup>56</sup> By saying that 'the physical health benefits for a male of being circumcised (e.g. reduced risk of HIV infection) could largely be obtained by deferring circumcision to a much later age' while 'the psychological [religious or cultural] benefits often . . . cannot be' places religious preferences above the medical benefits that informed or well-educated parents may wish to provide for their infant son by having him circumcised. Delay places children at higher risk of conditions that could be largely avoided if they had been circumcised in infancy.<sup>5</sup> It is also unrealistic and impractical.<sup>56</sup> In this era of preventive medicine, infant MC is a logical decision that parents should be encouraged to make. The Statement fails to explain why ethical considerations preclude infant MC

but do not apply to childhood vaccination. If MC in childhood is unethical, then so too is vaccination.

## Conclusion

The RACP's 2010 Policy Statement on infant MC is misleading, inaccurate and in places incorrect. Selective citation of references and omission of key articles that include meta-analyses and data from large RCTs are consistent with an impression of bias. Given the low risk of MC in infancy, yet a vast literature of high-quality studies attesting to the considerable, wide-ranging lifetime benefits for males and the female sexual partners of

heterosexual and bisexual men, we conclude that the RACP's review lacks scientific rigour and is therefore an unsafe evidence base for policymakers. An affirmative policy statement by five prominent Fellows of the RACP and five Fellows of other medical organisations was published recently in a peer-reviewed journal on behalf of the Circumcision Foundation of Australia and since this is evidence based, it is better suited to guide policy decisions.<sup>57</sup> The ban on elective infant MC in public hospitals in most states should be lifted. Medicare rebates should enable low-income parents to afford to have their infant sons circumcised.

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## BRIEF COMMUNICATION

# Australian resident doctors want more palliative medicine education: a survey of attitudes and perceived needs

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### Key words

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### Abstract

Most expected deaths occur in acute hospitals, and medical staff providing end-of-life care are generally not palliative medicine specialists. Through a voluntary self-administered survey, this study explored resident doctors' attitudes to palliative medicine and their perceived educational needs. Fifty-two resident doctors participated (response rate 39%), mostly acknowledging the importance of palliative medicine to their practice and emphasising that further postgraduate education is necessary.

In Australia, most expected deaths occur in the acute hospital setting.<sup>1</sup> While many patients are referred to specialist palliative care services, most end-of-life care (EOLC) in acute hospitals is provided by nonspecialist medical practitioners.<sup>2</sup>

The palliative care community is aware of the need for further training and education of nonspecialists,<sup>3</sup> particularly given increasing workforce demands.<sup>2</sup> In the acute hospital setting, greater generalist understanding would improve patient care and better streamline referrals to appropriately focus specialist input.<sup>4</sup> The aim of this study was to examine the palliative care learning needs of resident doctors, focusing on confidence practising palliative medicine and attitudes towards this approach.

A survey was developed based on expert consensus, literature review and the requirements of Australian vocational colleges. The survey was distributed to resident medical staff, postgraduate years (PGYs) 2–4,

employed at a Victorian health service. The study was approved by the institutional Ethics and Research Review Committee.

Fifty two (of 133, 39%) responded, with demographical data missing for seven. Most ( $n = 21$ , 47%) were PGY2 and from a medical training stream ( $n = 24$ , 53%). Respondents reported a high level of comfort and skills in palliative medicine. Most (80%) feel comfortable caring for dying patients and were confident discussing dying with patients and families (88%), although less confident discussing prognosis and alleviating suffering (40%, 54% respectively) (Table 1). Most (92%) felt that postgraduate education in palliative care is necessary; 98% would like practical advice about symptom management, and 64% favour communication skills training for postgraduate doctors.

This study reports upon the palliative education needs of Australian resident doctors within a tertiary hospital in Victoria. While there is extensive literature detailing palliative care education strategies, few programmes target resident doctors, and none is Australian.<sup>5</sup> While the resident doctors were confident discussing dying, they reported both a need and a willingness to have further

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