

## Circumcision for phimosis

A recent research article and accompanying editorial on circumcision, and phimosis as an indication for circumcision, in the 17 February issue of the *Journal*, have generated quite a degree of controversy.

### Circumcision for phimosis and other medical indications in Western Australian boys

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TO THE EDITOR: Spilsbury et al argue that “improved education for physicians, and perhaps parents, with regard to foreskin development and management is required.”<sup>1</sup> However, updating of textbooks and medical curricula is required to accomplish this objective. Articles by Caldamone et al<sup>2</sup> and Cendron et al<sup>3</sup> are two examples of incorrect data in text books.

Gairdner was the first to provide data on the normal development of the foreskin in young boys.<sup>4</sup> Gairdner incorrectly believed that 92% of boys would have a retractile prepuce by age 5 years. Unfortunately, Gairdner’s data was wrong.<sup>5</sup> Gairdner achieved his artificially high rate of retractability by first “running a probe around the preputial space” to break the normal physiological fusion between the foreskin and glans penis,<sup>4</sup> a procedure few would recommend today because of pain, trauma, risk of infection, and iatrogenic creation of adhesions. As stated above, some textbooks continue to uncritically parrot Gairdner’s incorrect data.

The error has been further compounded by the confusing presentation of data in Øster’s otherwise excellent study.<sup>6</sup> Øster presents information about the incidence of “phimosis”, “tight foreskin”, and “adhesions” in separate tables. To obtain the percentage of boys in each age group with partially or completely non-retractile foreskins, it is necessary to sum the percentage incidence of these conditions. When that is done, Øster’s data are very similar to those provided by Kayaba et al<sup>7</sup> on the development of the retractile prepuce. Therefore, according to current research, about 50% of boys will have a retractile prepuce by age 10 years and about 99% will have a retractile prepuce by the

completion of puberty. The non-retractile foreskin is normal in boys and no cause for concern.

Based on the data of Øster<sup>6</sup> and Kayaba et al,<sup>7</sup> Doctors Opposing Circumcision believes that the new rule-of-thumb should be that about 50% of boys will have a retractile prepuce by age 10 and about 99% will have a retractile prepuce by the completion of puberty. This information needs to be incorporated into textbooks, medical curricula, and information provided to the public.

When the normal development of the prepuce is properly understood, one can easily see that patiently awaiting the natural development of preputial retractability will usually eliminate the need for medical or surgical intervention. Better information about the normal development of the foreskin should relieve parental anxiety and reduce false diagnoses of phimosis in boys.

1. Spilsbury K, Semmens JB, Wisniewski ZS, Holman CDJ. Circumcision for phimosis and other medical indications in Western Australian boys. *Med J Aust* 2003; 178: 155-158.
2. Caldamone AA, Schulman S, Rabinowitz R. Outpatient pediatric urology. In: Gillenwater JY, Grayhack JT, Howards SS, Duckett JW, eds. *Adult and pediatric urology*. Vol. 3. St Louis: Mosby, 1996: 2730.
3. Cendron M, Elder JS, Duckett JW. Perinatal urology. In: Gillenwater JY, Grayhack JT, Howards SS, Duckett JW, eds. *Adult and pediatric urology*. Vol. 1. St Louis: Mosby, 1996: 2152.
4. Gairdner D. The fate of the foreskin: a study of circumcision. *BMJ* 1949; 2: 1433-1437.
5. Wright JE. Further to the “further fate of the foreskin”: Update on the natural history of the foreskin. *Med J Aust* 1994; 160: 134-135.
6. Øster J. Further fate of the foreskin: incidence of preputial adhesions, phimosis, and smegma among Danish school-boys. *Arch Dis Child* 1968; 43: 200-220.
7. Kayaba H, Tamura H, Kitajima S, et al. Analysis of shape and retractability of the prepuce in 603 Japanese boys. *J Urol* 1996; 156: 1813-1815. □

### Stefan A Bailis

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TO THE EDITOR: The study by Spilsbury and colleagues provides new data on rates of phimosis, balanoposthitis, and lichen sclerosus.<sup>1</sup> However, it does cite sources — Øster<sup>2</sup> and Shankar and Rickwood<sup>3</sup> — that indicate very low rates of phimosis. Øster was a school medical officer who followed up his

subjects for several years, making frequent penile inspections and giving them continual instruction on prepuce care. Without such extraordinary attention, it would be highly unlikely the general population would have such low rates of phimosis.

Shankar and Rickwood’s definition of pathological phimosis was limited to cases of phimosis-related circumcision with confined BXO (balanitis xerotica obliterans). This is a very narrow definition, as there can be preputial tightness not associated with BXO, and many cases would be left untreated. A broader definition would be “difficulty in retracting the prepuce at an age when retraction should be easily accomplished”. In addition to pathological phimosis, greatly prolonged physiological phimosis should be considered an abnormality, as it also precludes retraction and full hygiene. Even Gairdner, who generally opposed circumcision, acknowledged this, because of the increased risk of penile cancer associated with delayed retractability.<sup>4</sup> He found that 20% of 200 uncircumcised boys aged 5–13 years did not have full retractability. Saitmacher found that 8.7% of 229 German youths aged 15–17 years had phimosis.<sup>5</sup> Because Spilsbury et al cite the unusually low rates of phimosis from Øster and Shankar and Rickwoods as a benchmark, the rates encountered in Western Australia will seem excessive.

The postneonatal circumcisions through age 5 years may be the result of difficulty in getting physicians to perform *prophylactic* neonatal circumcisions — just as the study states. This is unfortunate, as, in terms of accruing maximal benefits with minimal risk and pain, the neonatal period is the ideal age for circumcision.

Parents should be given full information and then be empowered to decide on behalf of their newborn sons. The present system encourages delays and mendacity. As to the therapeutic circumcisions performed after the age of 5 years, perhaps at some point parents have decided against the short-term fix

— steroid creams which may or may not work — and have opted for circumcision, as it will definitely immediately eliminate retraction difficulties and preclude virtually all penile problems associated with the uncircumcised state in the future. The higher rates in country areas with their harsh environment may reflect pragmatic, long-term preventive maintenance thinking.

1. Spilsbury K, Semmens JB, Wisniewski ZS, Holman CDJ. Circumcision for phimosis and other medical indications in Western Australian boys. *Med J Aust* 2003; 178: 155-158.
2. Øster J. Further fate of the foreskin: incidence of preputial adhesions, phimosis, and smegma among Danish school-boys. *Arch Dis Child* 1968; 43: 200-203.
3. Shankar KR, Rickwood AMK. The incidence of phimosis in boys. *BJU Int* 1999; 84: 101-102.
4. Gairdner D. The fate of the foreskin. *BMJ* 1949; 2: 1433-1437.
5. Saitmacher F. *Socialhygienische betrachtungen zu einer routinemässigen zirkumzision männlicher sauglinge*. *Deutsche Gesundheitswesen* 1960; 15: 1217-1220. □

#### Guy Cox

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**TO THE EDITOR:** In the recent article by Spilsbury and her colleagues on circumcision for phimosis, a key part of their argument hinged on probable rates of phimosis among boys.<sup>1</sup> I take no stance for or against circumcision, but I have published on evolutionary aspects of the human foreskin and the origins of circumcision,<sup>2</sup> for which I surveyed the literature on the occurrence of phimosis.

Spilsbury et al quote a reported rate of phimosis among boys aged under 15 years of 0.6%.<sup>3</sup> However, this refers to “pathological phimosis, a condition unambiguously characterised by secondary cicatrization of the orifice, usually due to balanitis xerotica obliterans”,<sup>4</sup> and not to phimosis in the usual sense: “the narrowing of the preputial orifice, leading to an inability to retract the foreskin, or prepuce, over the glans penis”.<sup>1</sup> As Spilsbury et al treat balanitis xerotica obliterans separately from phimosis in their classification of reasons for circumcision,<sup>1</sup> this is not a valid citation.

The authors also quote Øster’s study of a large cohort of Danish boys<sup>5</sup> as giving a rate of phimosis of 1.5% at age 17, but, in fact, a further 2% were reported as having “tight” foreskins, and this was at the conclusion of an 8-year study during which retraction of each boy’s prepuce was attempted annually, and the boys were given

instruction on foreskin hygiene. It was therefore a report on a project of conservative foreskin management, and not a survey of a population. At the start of the trial, at age 8 years, 8% of the boys had phimosis. Spilsbury et al state (without references) that preputial adhesions resolve in boyhood without requiring surgical intervention,<sup>1</sup> yet Øster found that 3% still suffered from adhesions at age 16–17 years.<sup>5</sup>

The authors cite Gairdner’s classic study<sup>6</sup> as the authority that phimosis should not be diagnosed in infants, yet, curiously, it is not mentioned that he reported a 20% incidence of phimosis in boys aged 5–13 years.

Thus, even the references cited give a very different impression of the incidence of phimosis among boys than would appear from the way they are quoted. Looking at other studies, an investigation of over 1000 adult soldiers in the British Army found that 14% of the uncircumcised men suffered from phimosis,<sup>7</sup> and a German study of 3000 adults found that 9.2% of those who were not circumcised also suffered from phimosis.<sup>8</sup> Studies in Asia have found much higher rates of phimosis — in both Japan<sup>9</sup> and Bali,<sup>10</sup> rates of up to 50% have been reported. The difference is attributed to cultural rather than anatomical factors.<sup>10</sup>

It is clear that phimosis in boys and adult men is very much more prevalent than Spilsbury et al claim. This inaccuracy is particularly disturbing when a publication is associated with an official survey of the quality of surgical care. Given that the topic of circumcision sometimes arouses strong feelings, it is particularly important to be accurate and impartial when studying it.

1. Spilsbury K, Semmens JB, Wisniewski ZS, Holman CDJ. Circumcision for phimosis and other medical indications in Western Australian boys. *Med J Aust* 2003; 178: 155-158.
2. Cox G. De virginibus puerisque — the function of the foreskin from an evolutionary perspective. *Med Hyp* 1995; 45: 617-621.
3. Shankar KR, Rickwood AM. The incidence of phimosis in boys. *BJU Int* 1999; 84: 101-102.
4. Rickwood AM, Kenny SE, Donnell SC. Towards evidence based circumcision of English boys: survey of trends in practice. *BMJ* 2000; 321: 792-793.
5. Øster J. Further fate of the foreskin: incidence of preputial adhesions, phimosis, and smegma among Danish school-boys. *Arch Dis Child* 1968; 43: 200-220.
6. Gairdner D. The fate of the foreskin: a study of circumcision. *BMJ* 1949; 2: 1433-1437.
7. Osmond TE. Is routine circumcision advisable? *J Royal Army Medical Corps* 1953; 99: 254.
8. Schoeberlein W. Bedeutung und Häufigkeit von Phimose und Smegma. *Muenchener Medizinische Wochenschrift* 1966; 7: 373-377.
9. Ohjimi T, Ohjimi H. Special surgical techniques for the relief of phimosis. *J Dermatol Surg Oncol* 1981; 7: 326-330.

10. Boon ME, Susanti I, Tasche MJ, Kok LP. Human papillomavirus (HPV) associated male and female genital carcinomas in a Hindu population. The male as vector and victim. *Cancer* 1989; 64: 550-565. □

#### Brian J Morris

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**TO THE EDITOR:** The article by Spilsbury et al starts well by acknowledging at least some of the serious health consequences of not circumcising,<sup>1</sup> but then digresses into a study of whether a particular medical reason for circumcision — namely phimosis early in life — has been overstated in medical records.

So what! Circumcision is a simple procedure that conveys significant lifetime health benefits. Like immunisation, any minor adverse effect can be treated immediately, and catastrophes are virtually nonexistent. An extensive literature review (263 references) of the numerous scientific studies points overwhelmingly to the net advantage of circumcision to male health and sexual function.<sup>2</sup> Benefits include:

- An 11-fold reduction in risk of urinary tract infections, which are extremely painful and can even lead to death (from kidney failure, meningitis and bone marrow disease).<sup>2-4</sup> Such infections present in about one in 20 uncircumcised boys.

- Virtually complete elimination of the risk of invasive penile carcinoma, which approximately one in 400–900 uncircumcised men will get during their lifetime (US and Swedish data). In parts of Africa and South America the rate is very much higher. A quarter of those affected will die from it while the rest will need at least partial penile amputation.<sup>2,5</sup> (This should not be confused with the often quoted, but misleading, annual incidence figures of one in 100 000 for developed nations).

- Reduction in risk of cervical cancer by at least 5-fold in female partners of circumcised men, established in a large multinational study last year.<sup>6</sup> Notably, these workers found that condom use by uncircumcised men did *not* reduce the risk.

- Elimination of phimosis, balanitis, posthitis, and paraphimosis, which

affects up to 18% of uncircumcised boys by the age of 8 years.<sup>2</sup>

- No need to circumcise later in life, when cost and risk is higher.

- Reduction, possibly absolute,<sup>7</sup> in risk of heterosexually acquired HIV infection<sup>8</sup> — the keratin-poor inner lining of the foreskin being the portal for entry of this virus which then rapidly infects immune system cells in the epithelium.<sup>9</sup>

- Reduction in risk of sexual problems.<sup>2</sup>

- Improved appearance<sup>2</sup> and sexual appeal.<sup>10</sup>

Given the enormous benefits to public health, circumcision needs to be strongly promoted.

1. Spilsbury K, Semmens JB, Wisniewski ZS, Holman CDJ. Circumcision for phimosis and other medical indications in Western Australian boys. *Med J Aust* 2003; 178: 155-158.
2. Morris BJ. Benefits of circumcision: medical, health and sexual. Available at: <http://www.circinfo.net> (accessed May 2003).
3. Schoen EJ, Colby CJ, Ray GT. Newborn circumcision decreases the incidence and costs of urinary tract infections during the first year of life. *Pediatrics* 2000 105: 789-793.
4. Wiswell TE. The prepuce, urinary tract infections, and the consequences. *Pediatrics* 2000; 105: 860-862.
5. Schoen EJ. Neonatal circumcision and penile cancer. Evidence that circumcision is protective is overwhelming. *BMJ* 1996; 46: 313.
6. Castellsague X, Bosch FX, Munoz N, et al. Male circumcision, penile human papillomavirus infection, and cervical cancer in female partners. *N Engl J Med* 2002; 346: 1105-1112.
7. Quinn TC, Wawer MJ, Sewankambo N, et al. Viral load and heterosexual transmission of human immunodeficiency virus type 1. *N Engl J Med* 2000; 342: 921-929.
8. Weiss HA, Quigley MA, Hayes RJ. Male circumcision and risk of HIV infection in sub-Saharan Africa: a systematic review and meta-analysis. *AIDS* 2000; 14: 2361-2370.
9. Patterson BK, Landy A, Siegel JN, et al. Susceptibility to human immunodeficiency virus-1 infection of human foreskin and cervical tissue grown in explant culture. *Am J Pathol* 2002; 161: 867-873.
10. Williamson ML, Williamson PS. Women's preferences for penile circumcision in sexual partners. *J Sex Educ Hlth* 1988; 14: 8-12. □

#### James B Semmens,\* on behalf of the Study Team

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**IN REPLY:** We support Hill in his call for improving the dissemination of information and data about foreskin development and management. Circumcision is a highly emotive issue.

Our study on phimosis<sup>1</sup> was carried out under the Western Australian Safety and Quality of Surgical Care Project, established in 1996, to assess the safety, quality, appropriateness and outcomes of surgical care in the state. The purpose of our study was to provide data on the trends of medically indicated circumcision in Western Australia. The

unusually high rates of circumcision for phimosis in children reported in our study support the findings of a study reported by Rickwood et al in 2000.<sup>2</sup>

Bailis and Cox raise concerns about the definition of phimosis we used in our study. We believe that phimosis requiring treatment by circumcision is a different entity to a non-retractile foreskin resulting from incomplete separation of the prepuce and glans. It is this latter condition that was reported in 20% of boys aged 5–13 years by Gairdner,<sup>3</sup> and not phimosis as suggested by Cox. We used a more conservative definition of phimosis, as the current (2002) guidelines established by The Royal Australasian College of Physicians (RACP) do not recommend circumcision unless medically indicated, particularly in young children.<sup>4</sup> In this context, we used the rate reported by Shankar and Rickwood<sup>5</sup> as the denominator. Most boys circumcised to treat phimosis in our study were aged under 5 years, and were therefore unlikely to have had “pathological” phimosis. Instead, these boys were circumcised for a condition that they might have outgrown, or for which they might have had alternative treatment. Our concern is that parents and clinicians may be opting for circumcision without being fully aware of these possibilities.

However, given the confusion over the issue, as indicated in the editorial by Dewan,<sup>6</sup> there is a clear need for medical texts and education curricula to clarify the definition and interpretation of phimosis as either pathological or physiological. This situation again would lend support for the call by Hill for a more standard definition to be devised that would be acceptable to the medical community.

There is also a clear international move towards reducing the practice of unnecessary or incidental removal of tissue or organs unless medically indicated. Not only has this rationale contributed to a dramatic decline in the incidental removal of the appendix over the last decade, it has also seen a reduction in the use of routine circumcision in Western countries.<sup>7,8</sup> As Dewan explains, even most cases of pathological phimosis can be successfully treated with steroid cream without the need for circumcision.<sup>6</sup> There are no

historical data that show that removal of the foreskin has long-term public health benefits to the individual. In fact, just as saphenous veins are used for coronary artery bypass surgery, so can the foreskin be used for penile and urethral reconstructions and is a valuable adjunct as a non-hair-bearing area for such treatments. Health education today on appropriate foreskin management in the infant should be aimed at health practitioners and parents.

The letter by Morris is more difficult to discuss as it relates, on the whole, to the use of routine circumcision, which was not the focus of our article. The issues raised by Morris seem to be at complete odds with the 2002 Policy Statement on Circumcision by the RACP — which is also consistent with the recommendations of the Canadian Paediatric Society and the American Academy of Paediatrics.<sup>4</sup> The RACP Policy Statement reviewed most of the points raised by Morris, including urinary tract infections, STDs, human papillomavirus and carcinomas of the cervix and penis. In each case, after an extensive review of the literature, the RACP reaffirmed that there is no medical indication for routine circumcision. Morris's view on the reduction of risk of sexual problems is at odds with the article by Darby,<sup>9</sup> published in the same issue of the Journal as our article, and is beyond the scope of our study. His claim that circumcision improves appearance is highly subjective and unsubstantiated, and should not be used to justify the surgical removal of tissue that may have a benefit to the individual later in life.

1. Spilsbury K, Semmens JB, Wisniewski ZS, Holman DJC. Circumcision for phimosis and other medical indications in Western Australian boys. *Med J Aust* 2003; 178: 155-158.
2. Rickwood AMK, Kenny SE, Donnell SC. Towards evidence based circumcision of English boys: survey of trends in practice. *BMJ* 2000; 321: 792-793.
3. Gairdner D. The fate of the foreskin: a study of circumcision. *BMJ* 1949; 2: 1433-1437.
4. The Royal Australasian College of Physicians Policy Statement on Circumcision, 2002. Paediatric and Health Division. Available at: <http://www.racp.edu.au/hpu/paed/circumcision/print.htm> (accessed May 2003).
5. Shankar KR, Rickwood AMK. The incidence of phimosis in boys. *BJU Int* 1999; 84: 101-102.
6. Dewan PA. Treating phimosis. *Med J Aust* 2003; 178: 148-149.
7. Hugh TB, Hugh TJ. Appendicectomy — becoming a rare event. *Med J Aust* 2001; 175: 7-8.
8. Donnelly NJ, Semmens JB, Fletcher DR, Holman CDJ. Appendicectomy in Western Australia: profile and trends 1981-1997. *Med J Aust* 2001; 175: 15-18.
9. Darby R. Medical history and medical practice: persistent myths about the foreskin. *Med J Aust* 2003; 178: 178-179. □

## Treating phimosis

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TO THE EDITOR: While I generally applaud the comments on phimosis in Dewan's recent editorial,<sup>1</sup> there are two points on which I would take issue with him — one historical, one ethical.

Firstly, the incidence of circumcision in Britain never reached anything like 95%, and most of the decline in the practice occurred in the 1940s. Accordi even at the height of its popularity, circumcision was performed in only 30%–40% of British boys. Circumcision was more likely as parental income and educational level rose — its incidence could be up to 50% among public school boys, but only 20% among working class and rural boys.<sup>5</sup> A survey of boys born in 1946 found that only 24% were circumcised, but the class differential was striking — 39% among professionals but only 22% among unskilled workers.<sup>5</sup>

One must conclude that circumcision never affected more than a minority of British males.

Secondly, I would question Dewan's remark that "we should respect the view of parents who regard circumcision as good treatment for their child, given certain provisos." This appears to suggest that a physician should agree to circumcise a boy, even in the absence of medical need, so long as he or she has made persistent parents aware of other options and provided them with correct information about the prepuce.

There are obvious ethical difficulties with this position, as it gives greater weight to the wishes of the parents than to the best interests of the boy. If there is no medical reason for the boy to be circumcised, circumcision is not in his best interests. As the physician's prime responsibility is to the health of the patient, it would appear to be his or her duty to decline to carry out the surgery and instead give the parents sufficient information to enable them to look after the child and his penis.<sup>6</sup>

I agree with Dewan that physicians should respect parents' *opinions*, but not that they should acquiesce to their wishes, if these are not in the best health interests of the child. Instead, I would

agree with the suggestion of Spilsbury et al in the same issue of the Journal,<sup>7</sup> that "improved education for physicians, and perhaps parents, with regard to foreskin development and management, is required."

1. Dewan PA. Treating phimosis [editorial]. *Med J Aust* 2003; 178: 148-50.
2. Carne S. Incidence of tonsillectomy, circumcision and appendicectomy among RAF recruits. *BMJ* 1956; 2: 19-23.
3. Gairdner D. The fate of the foreskin: a study of circumcision. *BMJ* 1949; 2: 1433-1437.
4. Osmond TE. Is routine circumcision desirable? *J Roy Army Med Corps* 1953; 99: 253-254.
5. Hyam R. Empire and sexuality: the British experience. Manchester: Manchester University Press, 1990: 78.
6. Smith J. Male circumcision and the rights of the child. In: Bulterman M, Hendriks A, Smith J, editors. *To Baehr in our minds: essays in human rights from the heart of the Netherlands*. Utrecht: Netherlands Institute of Human Rights, University of Utrecht, 1998: 465-498. (SIM Special No. 21). Available at: <http://www.cirp.org/library/legal/smith/> (accessed May 2003).
7. Spilsbury K, Semmens JB, Wisniewski ZS, Holman CDJ. Circumcision for phimosis and other medical indications in Western Australian boys. *Med J Aust* 2003; 178: 155-158. □

## Paddy A Dewan

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**IN REPLY:** I thank Darby for his correction of the historical facts, and for raising for further discussion the ethics of circumcision. While I concur that removal of the prepuce for cosmetic reasons may not be in the interests of the child, we do need to allow for the parents' perceptions, and for their willingness and ability to care for the prepuce appropriately, if we refuse to perform a circumcision. While the risks from a well-cared-for prepuce are very low, the foreskin being retained does come with potential problems.

I would always encourage the non-surgical option, but I think we, as the treating surgeons, need to accept that the parents are given a task that they may be either unwilling or unable to take on if we ask them to manage the prepuce of their boy non-operatively. Therefore, my editorial concluded that the view of the parents was part of the complex equation that allows us to treat the boy and his family well, recognising that even those without a problem still need to be managed.

I feel I have not given greater weight to the wishes of the parents, but have taken into account the wishes of the parents in the deliberation of what might be best for the child. □