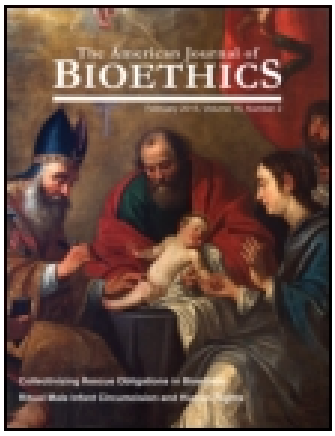

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Presumptions Are Not Data and Data Are Often Not Informative

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Open Peer Commentaries

Presumptions Are Not Data and Data Are Often Not Informative

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Jacobs and Arora (2015) argue that infant circumcision is permissible using a "test" of their own invention that "requires application of facts regarding risks and benefits." Jacobs and Arora's empirical presumptions are incorrect. When they do appeal to the medical literature, their efforts are selective and biased. A more dispassionate engagement with the literature does not support their conclusions (levels of evidence supporting empirical claims made by Jacobs and Arora are summarized in Table 1).

Most notably, Jacobs and Arora rely on the 2012 Task Force statement by the American Academy of Pediatrics (AAP 2012), egregiously referring to its authors as "impartial." The conclusions of the task force reflect the ethno-religious/cultural makeup of the committee and its selective bibliography, as noted by thirty-eight leading scientific experts from Europe and Canada, who criticized the AAP for exhibiting "cultural bias" in favor of circumcision (Frisch et al. 2013). The AAP responded *tu quoque*, asserting that their critics were biased because circumcision is rare in Europe (AAP 2013). Unlike other task forces assembled by the AAP, the membership of the circumcision task force did not include any experts in the relevant area: circumcision. Jacobs and Arora place far too much value on the AAP report, which is out of step with the consensus of medical opinion worldwide that the risks of circumcision outweigh the purported benefits. Indeed, several national pediatric organizations in Europe have condemned the practice (KNMG 2010).

Jacobs and Arora wish to defend "ritual" circumcision, an act of faith, which in the Jewish tradition is typically performed outside the hospital by a mohel without anesthesia. Yet the authors attempt the defense by weighing medical benefits against risks using data derived from circumcisions carried out in clinical settings largely on adults. With this in mind, let us review some of the empirical claims asserted by Jacobs and Arora.

EMPIRICAL CLAIM 1: INFANT CIRCUMCISION IS NOT HARMFUL

While the authors do not directly claim that infant circumcision is not harmful, they construe the removal of the foreskin as being "trivial" and assert that circumcision is safe with minimal adverse consequences. These claims show a lack of understanding of the anatomy and function of the prepuce (Cold and Taylor 1999; Sorrells et al. 2007), and rely on selective citations of studies concerning adult, rather than infant, circumcision. Despite Jacobs and Arora's suggestions that the foreskin is "trivial," and that the benefits of circumcision outweigh the risks, intact men recognize the value of their foreskin and very few elect to be circumcised, knowing that doing so would be harmful.

EMPIRICAL CLAIM 2: INFANT CIRCUMCISION IS LESS PAINFUL

Until the mid 1980s, it was believed that infants could not feel pain, but now it is well established that for a given level of noxious stimuli, the pain response is more intense in an infant than in an adult or older child. Following a noxious stimulus, our brains learn to psychologically compensate for the stimulus. For novel noxious stimuli, the brain does not know how to filter or tolerate the stimuli; thus, the stimuli are experienced as more raw and intense by an infant.

Infants also have not fully developed the inhibitory nerve fibers that attenuate noxious stimuli from the periphery. Consequently, noxious stimuli that reach the brain are more intense (Fitzgerald 1998).

The circumcision procedure is more uncomfortable for the neonate. For the majority of males older than 15 years, the inner surface of the foreskin is no longer attached to the surface of the glans. In newborns, nearly all of the glans is attached to the foreskin. Unlike circumcision of an older male, infant circumcision includes tearing the two struc-

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Table 1. Level of evidence supporting empirical claims made by Jacobs and Arora (2015)

Unsupported "expert" opinion:
Circumcision prevents disease (preventative health guarantee)
Prevention of cervical cancer
Unsupported "expert" opinion with evidence to the contrary from meta-analyses and randomized clinical trials:
Prevention of genital infections with human papillomavirus or herpes simplex virus
Evidence to the contrary in randomized controlled trials:
Safe, adequate anesthesia available for infant circumcision
Evidence to the contrary in population-based studies:
Low rate of circumcision revisions
Having a foreskin is "trivial"
Little negative effect on sexual health and function
Evidence to the contrary in multiple case-controlled studies:
Circumcision is safe
Infant circumcision less risky/consequences are minimal
Style of circumcision does not affect risk/benefits
Evidence to the contrary in basic histology:
Surgical restoration is possible
Conflicting evidence:
Circumcision is less protective of disease if performed after coitarche
No evidence available/personal opinion:
Circumcision beyond infancy more complex
Circumcision beyond infancy takes more time
Circumcision beyond infancy longer healing time
Most men do not rue the fact they were circumcised
Child born to a family whose religion requires circumcision wants to comply
Jews and Muslims unhappy if they are not circumcised
Social disadvantages to being intact
Circumcision contributes to child's dignity
Circumcision is far from degrading
Infant circumcision prevents HIV infections
Provides emotional and spiritual advantages
Years in tennis camp more onerous than circumcision
Divine authority:
Satisfies religious requirement
Internally illogical:
Security of person is not intruded
Circumcision resembles piercing more than amputation of hand

tures apart, which is akin to pulling a fingernail from the nail bed. This open wound remains exposed until it heals after a few weeks.

Finally, in infant circumcision, adequate anesthesia is not available. Even with the use of topical and local anesthetics, infant circumcision results in significant changes in vital signs, vagal tone, and cortisol levels consistent with intense pain (Paix and Peterson 2012). More effective methods of anesthesia, such as general anesthesia and caudal blocks, are not used because of the difficulty or risk of using them on infants. Insofar as pain is an ethical issue (Benatar and Benatar 2001), the procedure should be delayed until general anesthesia can be more safely administered.

EMPIRICAL CLAIM 3: INFANT CIRCUMCISION IS MORE BENEFICIAL

The claim that infant circumcision has benefits is highly contentious. One could argue that removing any body part reduces the risk of disease in that body part. For example, removing the left testicle would reduce the risk of testicular cancer by more than half. The authors take this a step further by claiming that infant circumcision has more benefits than a later circumcision. They offer little to back up this claim, or misapply evidence. For example, they cite randomized clinical trials reporting a 1.3% absolute reduction in HIV infection rates, but the participants in the trials were *adults*. By contrast, there are no studies indicating that

infant circumcision significantly reduces the incidence or prevalence of heterosexually transmitted HIV infections.[1]

The only "benefit" that may be associated with infant circumcision is a small absolute reduction in the risk of urinary-tract infections (UTIs). This claim needs to be tempered by the infrequency of these infections in boys (cumulative risk approximately 1%), the fact that UTIs can be treated with oral antibiotics (Hoberman et al. 1999), and the fact that UTIs very rarely result in long-term problems such as hypertension or kidney failure (Salo et al. 2011). It is estimated that it would require between 111 and 195 circumcisions to avoid one UTI (To et al. 1998). The different rates of diagnosing boys with a UTI based on circumcision status may result from confounding factors that lead to underdiagnosing UTIs in circumcised boys and overdiagnosing UTIs in intact boys (Van Howe 2005).

EMPIRICAL CLAIM 4: INFANT CIRCUMCISION IS LESS RISKY

The claim that infant circumcision is less risky is based on comparing studies in infants with unrelated, separate studies in older children and adults without accounting for the methodological differences between the separate studies. Reported complication rates depend on the method by which data are collected. For example, a prospective study found an excessive bleeding rate of 8.9% to 9.9% following infant circumcision (Sutherland, Glueck, and Gleser 1967). Chart reviews have documented complication rates of 2% to 6% (O'Brien, Calle, and Poole 1995). Data extracted from hospital face sheets have reported complication rates of 0.1 to 0.2% (El Bcheraoui et al. 2014). Therefore, if one were to compare an infant circumcision complication rate drawn from a database to an adult circumcision complication rate taken from a prospective trial, how much of the difference can be attributed to how data were collected? To carry out a meaningful comparison, the groups need to be compared using the same tools, the same skill of practitioners, in the same environment, at the same time. Only a handful of studies have done so and they do not support the authors' claim.[2]

The foregoing discussion is directed to comparisons of immediate complications. The authors fail to mention that the most common surgical complication from circumcision, meatal stenosis (narrowing of the urethra), typically does not present until 3 to 5 years of age and affects 5% to 20% of circumcised boys, with most needing a surgical correction. This yields a number needed to harm of between 5 and 20 (Joudi, Fathi, and Hiradfar 2011).

Finally, certain serious complications reported following infant circumcision are rarely if ever seen following adult circumcision. These include death and amputation of some or all of the glans penis (Paediatric Death Review Committee 2007; Sherman et al. 1996).

CONCLUSION

Most of the benefits that have been attributed to circumcision follow from adult circumcision performed in a clinical setting rather than from ritual infant circumcision. Yet infant ritual circumcision is the subject of Jacobs and Arora's argument. Although the few properly controlled studies on risk do not support Jacobs and Arora's conclusion, one could argue that the ability to provide one's own consent for a later circumcision has the most ethical value. By waiting until the person can consciously choose the procedure for his body, the decision underlines an initiate's commitment to his cultural/religious community. It becomes a decision that he owns and a sacrifice he is willing to make. ■

REFERENCES

AAP Task Force on Circumcision. 2012. Male circumcision. *Pediatrics* 130: e756–e785.

AAP Task Force on Circumcision. 2013. Cultural bias and circumcision: The AAP Task Force on Circumcision responds. *Pediatrics* 131: 801–804.

Benatar, D., and M. Benatar. 2001. A pain in the fetus: Toward ending confusion about fetal pain. *Bioethics* 15: 57–76. http://dx.doi.org/10.1111/1467-8519.00212.

Cold, C. J., and J. Taylor 1999. The prepuce. *BJU International* 83 (suppl. 1): 34–44.

El Bcheraoui, C., X. Zhang, C. S. Cooper, et al. 2014. Rates of adverse events associated with male circumcision in US medical settings, 2001 to 2010. *JAMA Pediatrics* 168(7): 625–634. Available at: http://dx.doi.org/10.1001/jamapediatrics.2013.5414

Fitzgerald, M. 1998. The birth of pain. *MRC News* Summer: 20–23.

Frisch, M., Y. Aigrain, V. Barauskas, et al. 2013. Cultural bias in the AAP'S 2012 technical report and policy statement on male circumcision. *Pediatrics* 131(4): 796–800. Available at: http://dx.doi.org/10.1542/peds.2012-2896

Hoberman, A., E. R. Wald, R. W. Hickey, et al. 1999. Oral versus initial intravenous therapy for urinary tract infections in young febrile children. *Pediatrics* 104: 79–86. Available at: http://dx.doi.org/10.1542/peds.104.1.79.

Jacobs, A. J., and K. S. Arora. 2015. Ritual male infant circumcision and human rights. *American Journal of Bioethics* 15(2): 30–39.

Joudi, M., M. Fathi, and M. Hiradfar. 2011. Incidence of asymptomatic meatal stenosis in children following neonatal circumcision. *Journal of Pediatric Urology* 7: 526–528. Available at: http://dx.doi.org/10.1016/j.jpurol.2010.08.005.

KNMG (Koninklijke Nederlandsche Maatschappij tot bevordering der Geneeskunst; Royal Dutch Medical Association). 2010. Non-

1. Studies from countries where infant circumcisions are performed have not found a significant association other than a Puerto Rican study in which circumcised men had a significantly greater prevalence of HIV infection (Rodriguez-Diaz et al. 2012).

2. The authors mischaracterized our position on complication rates and ignored our references to the only properly performed studies comparing complication rates of circumcisions performed on infants and older children (Svoboda and Van Howe 2013).

therapeutic circumcision of male minors. Available at: http://knmg.artsennet.nl/Publicaties/KNMGpublicatie/77942/Non-therapeutic-circumcision-of-male-minors-2010.htm

O'Brien, T. R., E. E. Calle, and W.K. Poole. 1995. Incidence of neonatal circumcision in Atlanta, 1985-1986. *Southern Medical Journal* 88: 411–415. Available at: http://dx.doi.org/10.1097/00007611-199504000-00005.

Paediatric Death Review Committee, Office of the Chief Coroner of Ontario. 2007. Circumcision: A minor procedure? *Paediatrics & Child Health* 12: 311–312.

Paix, B. R., and S. E. Peterson. 2012. Circumcision of neonates and children without appropriate anaesthesia is unacceptable practice. *Anaesthia and Intensive Care* 40: 511–516.

Rodriguez-Diaz, C. E., M. C. Clatts, G. G. Jovet-Toledo, et al. 2012. More than foreskin: Circumcision status, history of HIV/STI, and sexual risk in a clinic-based sample of men in Puerto Rico. *Journal of Sexual Medince* 9: 2933–2937. Available at: http://dx.doi.org/10.1111/j.1743-6109.2012.02871.x.

Salo, J., R. Ikäheimo, T. Tapiainen, and M. Uhari. 2011. Childhood urinary tract infections as a cause of chronic kidney disease. *Pediatrics* 128: 840–847. Available at: http://dx.doi.org/10.1542/peds.2010-3520.

Sherman, J., J. G. Borer, M. Horowitz, and K. I. Glassberg 1996. Circumcision: Successful glanular reconstruction and survival following traumatic amputation. *Journal of Urology* 156: 842–844. Available at: http://dx.doi.org/10.1016/S0022-5347(01)65836-1.

Sorrells, M. L., J. L. Snyder, M. D. Reiss, et al. 2007. Fine-touch pressure thresholds in the adult penis. *BJU International* 99(4): 864–869. Available at: http://dx.doi.org/10.1111/j.1464-410X.2006.06685.x

Sutherland, J. M., H. I. Glueck, and G. Gleser. 1967. Hemorrhagic disease of the newborn: breast Feeding as a necessary factor in the pathogenesis. *American Journal of Diseases of Children* 113: 524–533. Available at: http://dx.doi.org/10.1001/archpedi.1967.02090200056003.

Svoboda, J. S. and R. S. Van Howe. 2013. Out of step: Fatal flaws in the latest AAP policy report on neonatal circumcision. *Journal of Medical Ethics* 39: 434–441.

To, T., M. Agha, P. T. Dick, and W. Feldman. 1998. Cohort study on circumcision of newborn boys and subsequent risk of urinary-tract infection. *Lancet* 352: 1813–1816. Available at: http://dx.doi.org/10.1016/S0140-6736(98)02392-7.

Van Howe, R. S. 2005. Effect of confounding in the association between circumcision status and urinary tract infection. *Journal of Infection* 51: 59–68. Available at: http://dx.doi.org/10.1016/j.jinf.2004.07.003.

Sex and Circumcision

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What are the effects of circumcision[1] on sexual function and experience? And what does sex—in the sense related to gender—have to do with the ethics of circumcision? Jacobs and Arora (2015) give short shrift to the first of these questions, and they do not seem to have considered the second. In this commentary, I explore the relationship between sex (in both senses) and infant male circumcision, and draw some conclusions about the ongoing debate regarding this controversial practice (for overviews, see Earp 2013; Earp and Darby 2014).[2]

THE EFFECTS OF CIRCUMCISION ON SEXUALITY

According to Jacobs and Arora (2015), circumcision has "little or no effect . . . on sexuality" (34). Since this is a cornerstone assumption of their argument, it is worth considering in some detail. Problematically, the authors rely (chiefly) on a pair of clinical trials that were carried out not on infants but on adult men who had volunteered to be circumcised. This conflation is unjustified for two reasons. First, it obscures the very distinction that opponents of involuntary circumcision typically invoke as being morally decisive (namely, the presence or absence of informed consent by the individual to be affected by the surgery); second, it is inaccurate on medical grounds. The effects of adult circumcision, whatever they are, cannot be simply mapped on to neonates. In other words, the data the authors appeal to in support of infant circumcision have almost nothing to do with infant circumcision.

Consider the trial by Krieger and colleagues,[3] cited by Jacobs and Arora. Participants in this trial, aged 18–24 years, were asked about their sexual desire, satisfaction, and so on, on a series of makeshift pen-and-paper scales, up to 24 months after the surgery. But if circumcision has a desensitizing effect on the penile glans (due to long-term exposure to irritation from the environment; see Frisch

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1. Jacobs and Arora (2015) purport to have written an article about "ritual infant male circumcision." However, they limit their discussion to circumcision performed "in a hospital or outpatient setting hygienically and with adequate analgesia" (30), which is not how "ritual infant male circumcision" is traditionally performed. Indeed, the authors build the bulk of their case about "benefits versus risks" (see Earp under review) on the back of data that do not apply to the practice they seek to defend.

2. Some sentences in the following sections have been adapted from Earp and Darby (2014).

3. For the full citation, see Jacobs and Arora (2015).