

Newborn Circumcision: Understanding the Debate *

Learning Objective: At the conclusion of this continuing medical education activity, the participant will know the relevant benefits and risks of male newborn circumcision, understand the history of circumcision and the underlying beliefs of both sides of the circumcision debate, and be prepared to provide parents with an informed and unbiased assessment of newborn circumcision

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Disclosures: Allergan: Principal Investigator on multicenter trial of Botox®

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***This AUA Update addresses the Core Curriculum topic of Pediatric Urology: Pediatric Trauma.**

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Newborn circumcision holds a unique place in urology, as it is one of only a handful of non-therapeutic urological procedures and the only one performed on children. Circumcision is primarily performed by non-urologists and for those providers it is generally the only male genital procedure they perform. Its indications continue to evolve with each generation and the ethical basis for it remains bitterly controversial worldwide. While slowly and steadily declining in popularity in the U. S., circumcision remains fixed in the American culture and is often the first medical decision faced by new parents. This “circumcision decision” can be contentious and stressful, due to the mixed messages bombarding parents from medical professionals, family members and the media. To understand this debate and counsel our patients we need to understand how we got here.

HISTORY OF CIRCUMCISION

Circumcision is one of the oldest most commonly performed operations believed to have been done more than 6000 years ago by the ancient Egyptians.¹ The original intent is lost to history and the most famous artifact, a stone carving discovered at Ankh-Mahor at Saqqara near Cairo, demonstrates a tantalizing duality (fig. 1). The young man on the right seems to be quite pleased with the procedure, patting the provider on the head, while the young man on the left looks less enthusiastic, and appears to be bound and restrained by an official looking attendant. This depiction has led to various interpretations ranging from a procedure done to emasculate slaves and captured soldiers to a procedure for the elite to enhance sexual pleasure. In this relief as well the men are clearly of a mature age, creating more speculation as to how this was later transferred to the infant.

Regardless of the origin, the practice continued and was later codified in Jewish religious law. The age was set at the eighth day with the ability to delay due to the health of the child. Despite aggressive attempts to quash this practice throughout history, particularly during the Roman era, the ritual continues little changed into the modern day.

Early Christianity dropped the practice of circumcision but did not condemn or prohibit it. In the modern era there are some Christian groups that embraced the tradition although the majority of Christians do not circumcise. Circumcision is also recognized in Islamic law as “Sunnah” (Prophet tradition) as well as “hadith” (the sayings of the Prophet Mohammed) and thus, is included in “Sharia” (divine law) and typically considered under the laws regarding cleanliness. Most branches consider it recommended but not mandatory. It is not required of converts and a child of Muslim parents who is not circumcised is still accepted as a Muslim.² The age of circumcision varies widely by country and the majority of the procedures are done by non-medical traditional providers.

Overall 30% to 40% of the global population is circumcised, and ritual or religious circumcision today is believed to account

for approximately 70%.^{3,4} However, in the United States ritual circumcision should represent only a small percentage of newborn circumcisions. In the U. S. and several other non-Muslim nations where circumcision is prevalent, the majority are performed in the tradition of the “health” circumcision, or the belief that circumcision conveys important medical benefits to the child.

The origin of the “health” circumcision in America is most commonly dated to the late nineteenth century and ascribed to the writings of such prominent American physicians as Lewis Sayre and Peter Remondino. Sayre, a prominent orthopedic surgeon widely considered the father of orthopedics, described several cases of using circumcision to relieve lower extremity paralysis.⁵⁻⁷ He attributed the paralysis to reflex neurosis from a tight or irritated prepuce.⁸ It is unclear from the reports whether the afflicted boys were experiencing a significant infection or other preputial condition at the time of treatment. Sayre later became a founding member and later president of the American Medical Association as well as a founder of Bellevue Hospital Medical College, which later merged to form the NYU School of Medicine. Remondino, a prominent Californian physician specializing in respiratory disease, touted circumcision as a cure for a myriad of health ailments, including alcoholism, epilepsy, asthma, enuresis, hernia and gout. In 1891 he published his major treatise, “The History of Circumcision” in which he touts wide ranging health benefits of circumcision.⁹ Much of his beliefs stem from purported disease disparities between Jewish citizens and the general population.

In addition, a common belief was that the irritated prepuce would lead to onanism which contributed to many of these diseases. There was also the concept of a tight prepuce exciting the nervous system in a dysfunctional manner. These concerns for the need of a therapeutic circumcision for the phimotic or diseased prepuce evolved into advocacy for the prophylactic circumcision to prevent these later illnesses as well as the feared onanism. These attitudes became widely popular and fit well with the health beliefs and fears of the time. While the modern reader may consider these theories disreputable, they were supported by some of the leading physicians and medical journals of that time, and were treated as serious science. It is difficult to know how the procedure was disseminated but there is a belief that it grew primarily among the elite and economically most advantaged.¹⁰

The first significant push back to circumcision is attributed to Gairdner who published the influential “The Fate of the Foreskin” in 1949 that not only made the argument that phimosis was physiological in the infant and young child and will resolve naturally, but also that at the time on average 16 boys a year in the UK died of complications from circumcision.¹⁰ This led the newly established National Health System to choose not to provide funding for this procedure, leading to a significant decline in circumcisions in the UK.

Organized medicine first began to question the medical necessity of newborn circumcision in the 1970s. The Australian Pediatric Association, and later the American Academy of Pediatrics and Canadian Pediatric Society issued reports that routine circumcision “lacked medical benefit.”¹¹ Later revi-

ABBREVIATIONS: AAP (American Academy of Pediatrics), HIV (human immunodeficiency virus), HPV (human papillomavirus), STI (sexually transmitted infection), UTI (urinary tract infection)

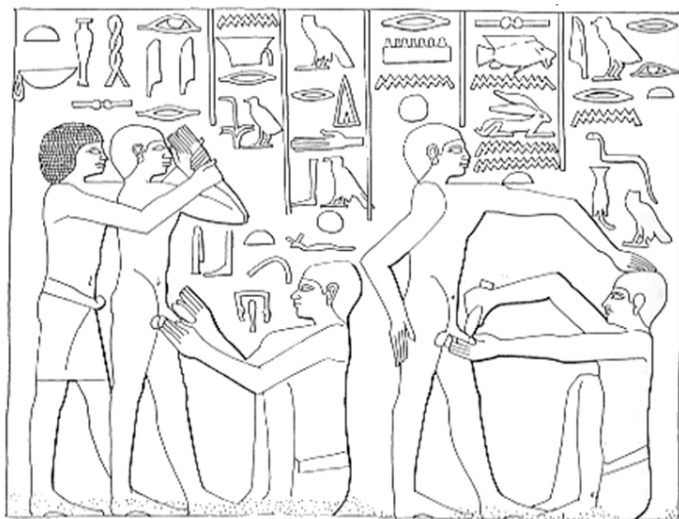


Figure 1. Adolescence, ancient Egypt, Ankhmahor, circumcision. Available at <https://ancientneareast.org/tag/ankhmahor/>.

sions of the guidelines watered down this statement. In 1977 the guidelines stated that “there is no absolute medical indication for routine circumcision of the newborn.” **By 1989, in part due to the groundbreaking work of Wiswell et al showing a decreased risk of urinary tract infections in circumcised boys published in 1985,¹² the guidelines were revised to recommend that parents should be counseled as to the risks and benefits of circumcision.** In 1999 the guidelines were again reviewed and evidence was found to support that circumcision did have benefits. The guidelines were then expanded to include not just urinary tract infections, but sexually transmitted diseases (HPV, HIV, syphilis and chancroid), although the benefits were not great enough to recommend routine circumcision.¹³ These find-

ings were reaffirmed in the 2005 review.¹⁴ While earlier recommendations were seen as being opposed to circumcision, the more recent guidelines were seen as neutral and leaving the option to the parent.

In the U. S. a number of activist groups firmly opposed to routine circumcision were formed. The organization most commonly recognized as the first important anti-circumcision activists was the National Organization of Circumcision Information Resource Centers founded in 1985 by Marilyn Milos, RN. Now there are more than 30 well known groups advocating against newborn circumcisions in the U. S. and abroad. **Within this changing landscape the rate of circumcision has significantly decreased from a peak of 85% in 1965 to a national rate of 58.3% in 2010. The nadir was reached in 2007 at a rate of 55.4% (fig. 2).**¹⁵

However, proponents of circumcision have likewise arisen to defend the procedure. In addition to their association of an intact prepuce with penile cancer risk, which dates back to Remondino, a robust medical literature has developed linking circumcision to a decreased risk of urinary tract infection, STIs, HPV and HIV. Most recently there has been a flurry of studies evaluating circumcision and the risk of prostate cancer.¹⁶⁻¹⁸

Due to the new data demonstrating a significant effect of circumcision in reducing HIV transmission in Africa, the AAP reconvened their task force in 2007. During the next 5 years the task force reviewed the past literature, incorporated the new data on HIV and, in response to prior criticism, expanded the sections on complications, sexual functioning and ethical issues. **In their 2012 policy statement the AAP stated that while there are medical benefits and risks, and that the “health benefits of newborn circumcision outweigh the risks,” the “health benefits are not great enough to recommend routine circumcision for all male newborns.”**¹⁹ The policy also acknowledges for the first time that the decision has implications beyond the medi-

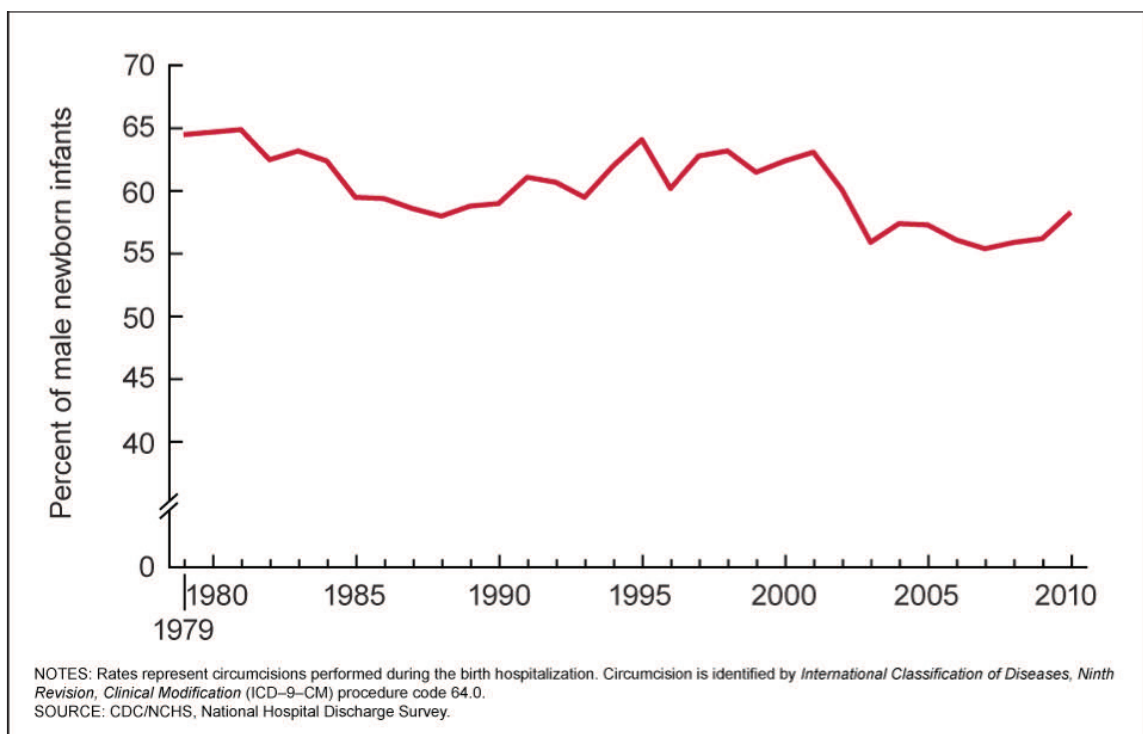


Figure 2. Rates of circumcision performed on male newborns discharged from short stay hospitals in the U. S. from 1979 to 2010. Reprinted from Owings et al.¹⁵

cal community by recognizing the need to respect that in our multicultural society non-medical considerations may be as or more important in the decision process than medical factors. **The policy states that the well informed parent is the party best able to make the decision in the best interest of the child.**¹⁹

This formulation has had the consequence of changing the debate from the concept of simply a medical equation of risk and benefit that can be universally applied to one of recognizing that newborn circumcision is more than a medical procedure and that based on the same facts parents, relying on their own values, preferences and experiences, can make different choices and still be acting in the best interest of their child. Thus, while parents may mention health benefits among their rationale for choosing circumcision, they will admit that there are a number of other non-medical reasons why they desire it. Therefore, as health care providers tasked with informing the parent we must become comfortable not only with the reported medical risks and benefits, but understand the non-medical factors including the ethics of circumcision.

PURPORTED HEALTH BENEFITS OF NEWBORN CIRCUMCISION

The decision to have a circumcision is often cast as a simple weighing of the medical risks and benefits, and choosing the right answer just as doctors and patients do every day in deciding treatment. However, unlike most procedures it is important to recognize that newborn circumcision is not a therapeutic procedure. The child is free of disease and most likely would have never suffered any of the conditions that circumcision is intended to prevent. Thus the benefits are few and most are far in the future. Unfortunately, many parents have an exaggerated view of the benefits or have fallen prey to circumcision myths. It is critical to have the parents identify and express their beliefs in order to put them in proper perspective. However, most parents have made up their mind before any discussion with their provider.²⁰

In general the most common health benefits attributed to circumcision are a decreased risk of urinary tract infections, penile cancer and contracting sexually transmitted infections including HPV and HIV, and a general sense that it is cleaner and healthier. In addition, there is concern that if not performed as a newborn, having to undergo a circumcision later in life is riskier, more painful and more expensive. In contrast, physicians typically consider the risks of circumcision to be bleeding and infection immediately following it. Less attention has been paid to non-acute complications such as post-circumcision adhesions, meatal stenosis, incomplete circumcision, poor cosmetic appearances and patient regret. Anti-circumcision activists have long tried to make the case that circumcision results in decreased penile sensitivity and decreased sexual satisfaction. They also consider the child's loss of autonomy of their genital anatomy to be unethical.

It is worth reviewing each of these claims to highlight the difficulty considering circumcision as a purely medical decision. As there is no single metric with which to compare these factors to, physicians and parents may weigh them in ways that vary widely. Although there are advocates who may believe there is a single right answer for everyone based on their priorities, it is impossible to separate this equation from the parents' underlying beliefs, biases and preferences.

Hygiene. One of the most commonly expressed reasons for

desiring a circumcision is the perception that it is "cleaner." Parents are often afraid that they will be unable to care for the uncircumcised penis as well as they fear that the child will be unwilling or unable to maintain adequate genital hygiene. They are frequently unaware of what proper hygiene for the intact prepuce actually entails. Given the prevalence of circumcision in the last generation there may be many health care providers who are equally uncomfortable with instructing parents. While there are data showing that uncircumcised men wash the penis less than circumcised men, and that many uncircumcised men fail to retract the foreskin during voiding or bathing,²¹ there are no good studies systematically evaluating genital hygiene practices in children. **Nor is there any evidence that children with a healthy prepuce and simple routine hygiene practices are in any way less clean than a circumcised child.** As the incidence of circumcision declines and primary care physicians become more comfortable with the intact pediatric prepuce, one can hope that this parental fear will be confidently addressed and resolved. Materials are available from the AAP for the parent explaining routine hygiene.²²

Urinary tract infection. **The decreased risk of urinary tract infections is one of the most commonly noted health benefits of circumcision. There have been numerous studies evaluating the association between infant urinary tract infection and circumcision status.**^{12, 23-28} **In general, these studies have shown a consistently increased risk for UTI in boys with an intact prepuce. The reported relative risk varies along with the definition of a UTI, method of urine collection, sample size and coexisting factors. However, there is a fairly consistent 4 to 10 times relative risk reduction associated with circumcision.**

Wiswell et al in their landmark study from 1985 evaluated the incidence of UTIs in infants in the first year of life born at a large military hospital during an 18-month period.¹² Of 5261 infants born during that time 41 had a confirmed UTI. The rate of infection was 0.47% for girls, 0.21% for circumcised boys and 20 times higher at 4.12% for uncircumcised boys. The vast majority of infections (83%) occurred in the first 3 months of life. Their work was later collaborated in a larger series the following year when they reviewed the records of more than 400,000 infants born at army hospitals of whom 1825 (0.43%) were hospitalized in the first year of life with a urinary tract infection.²⁵ The incidence of UTI was approximately 1/1000 for circumcised boys, 1/100 for uncircumcised boys and 1/500 for girls. The majority of infections occurred in the first 3 months of life. The authors also reported that after the AAP reports of 1971 and 1975, they saw a decrease in the incidence of circumcision as well as a corresponding increase in UTIs.

These influential reports have been cited by multiple researchers with a relatively consistent finding that the risk of UTI ranges from 7 to 14/1000 uncircumcised boys and 1 to 2/1000 circumcised boys.²⁹ However, it is clear that the overall absolute risk is low at approximately 1%. This is important to appreciate when considering the number needed to treat to prevent a single infection. Also this risk is lower than the overall baseline risk of asymptomatic bacteriuria in male infants.³⁰

A concern is the possible confounding influence of premature newborns, who are much less likely to undergo circumcision but more likely to have additional medical encounters and more urine cultures.³¹ A further confounding issue is the finding of greater bacterial colonization of the urethra and periurethral glans in uncircumcised boys, increasing the risk of contaminated specimens when obtained by a bag method.^{24,32} However in

the Wiswell studies all cultures were obtained by catheter or suprapubic aspirate. Another concern is the absolute value of this risk reduction in the modern era with improved antibiotic therapy, imaging and prenatal detection of significant anatomical abnormalities.

Despite these concerns consensus remains that circumcision has a beneficial effect in reducing UTI risk in infants. After infancy the risk of UTI in circumcised and uncircumcised boys is significantly reduced.³³

Sexually transmitted infections (excluding HIV). There have been numerous studies evaluating the risk of STI and circumcision. A meta-analysis of the literature suggests that there is a protective effect of newborn circumcision against ulcerative STIs, more significantly against syphilis, although also against chancroid and herpes.³⁴ However several other studies have refuted this effect.^{35,36} Circumcision has been thought to have a protective effect against HPV in the male as well as transmission to the female partner.³⁷ However, this effect is greater in men at relatively low risk and those with a history of few female partners, and loses its effectiveness in men at high risk and those with a history of numerous partners.³⁷ There is no evidence of a protective effect against non-ulcerative STIs, particularly gonorrhea or chlamydia, which are the most prevalent STIs in the U. S.^{38,39} For HPV, attention is now focused on prevention through the availability of an effective vaccine, although its acceptance thus far has been suboptimal.

Thus overall there is a risk reduction in acquisition of specific non-HIV STIs afforded by circumcision, particularly syphilis, chancroid and HPV, but not gonorrhea or chlamydia. However, the effectiveness of this risk reduction in the U. S. population is a valid question but it is important to stress to parents that this protection alone is insufficient, as there should be no lessening of the practice of effective safe sex measures, particularly the use of barriers such as condoms.

HIV. The most provocative information in the circumcision debate is the protective effect of circumcision in preventing male HIV acquisition during high risk heterosexual activity. **Three large randomized controlled trials conducted in Africa demonstrated a 50% reduction in HIV acquisition.**⁴⁰⁻⁴² The effect was so pronounced that some trials had to be stopped prematurely. This followed many other studies that had previously suggested such an association.⁴³ Furthermore, a plausible biological theory for the effect of circumcision has been identified. It has been suggested that the risk of transmission is enhanced due to the viral adherence to Langerhan cells in the mucosal side of the prepuce. Also there is a greater likelihood of sexual trauma to the intact prepuce creating breaks in the protective skin barrier.^{44,45} **Using current patterns of HIV acquisition and disease prevalence, the Centers for Disease Control has calculated that circumcision could provide a 15.7% lifetime risk reduction for men in the U. S.**⁴⁶ **The current predicted lifetime risk of HIV in U. S. men is 1.87%.**⁴⁶ Circumcision has been shown to be a cost-effective strategy in the U. S. despite the fact that there has been no benefit of circumcision in the men having sex with men population, which is still the primary source of HIV acquisition.⁴⁶

From a world public health perspective circumcision has been recognized as an important new tool in the fight against HIV, particularly in those regions with a high prevalence in the female population and poor adoption of safe sex practices. The World Health Organization has been active in introduc-

ing programs to bring male circumcision to adults and children throughout sub-Saharan Africa.^{47,48} Whether this is a significant enough benefit to warrant a more positive recommendation in the U. S. population remains a subject of debate. Circumcision only provides protection for high risk heterosexual intercourse when the female partner is HIV positive and the male is HIV negative. There is no protection for men having sex with men⁴⁹ and no risk reduction for the HIV negative female. Circumcision is still less effective than a condom for HIV protection. Therefore in the U. S., where condoms are readily available and socially accepted, and a relatively low incidence of HIV in non-sex working, non-intravenous drug using women, the relevance of the protection remains questionable. In addition, this protection has a significant lag time, and one can hope more effective preventions will be available.

Penile cancer. Penile cancer is a rare tumor in the United States and has become more rare with a recent incidence of 0.58/100,000 cases.⁵⁰ Geographical variation in incidence has frequently been used to make the argument in favor of neonatal circumcision. Many areas with a high incidence of penile cancer such as Brazil (3.4/100,000) or India (1.8/100,000) have a low incidence of circumcision compared to countries with a low incidence of cancer and a high rate of circumcision such as Israel (0.1/100,000). However there are areas with a similarly low incidence of cancer and a low incidence of circumcision such as Japan (0.3/100,000), Finland (0.5/100,000) and ethnic Chinese in Singapore (0.6/100,000).⁵¹ It is suspected that other aspects of public health such as the availability of clean water, better hygiene practices and access to medical care may play a more important role than simply circumcision prevalence.

The presence of a foreskin has been identified as a risk factor for squamous cell carcinoma.⁵² **The overall risk of penile cancer is 2.3 times higher in men with an intact foreskin than in those circumcised as an infant. However, this is a relatively weak risk factor and significantly less important than other risk factors such as smoking (4.5 times) or history of a penile injury or tear (4 to 5 times).**^{52,53} **Pathological phimosis is the greatest risk factor for penile cancer (11 to 16 times) and accounts for the majority of the risk caused by the presence of a foreskin. In fact, in uncircumcised men without a history of phimosis the risk of penile cancer is actually reduced by 50%.**⁵² To put it another way, a healthy normal prepuce is actually protective against penile cancer. **This finding argues that the mechanism by which circumcision reduces penile cancer is not just removing the target skin but most likely by preventing pathological phimosis.** As untreated phimosis can result in chronic inflammation, it makes sense that it is a risk factor for squamous cell carcinoma which is frequently associated with inflammation or areas of injury. The degree that prompt medical treatment of phimosis reduces this risk as opposed to circumcision is unknown. However, given the low incidence of penile cancer, the number needed to treat is extremely high. Clearly a healthy foreskin can have a protective effect by protecting the glans and phallus from injury.

Future need. Lastly some parents are concerned that the child might need a circumcision for a standard medical indication in the future. If the parent or a close relative underwent circumcision as an adolescent or adult, they may consider it to have been a traumatic experience they wish to avoid for their child. **Numerous studies have shown that the expected need for a future circumcision using strict medical criteria in a popula-**

tion for which circumcision is not the norm is approximately 1.7%.⁵⁴ The actual incidence in the U. S. is presumed to be higher.⁵⁵ This finding is likely due to many factors, including overtreatment for physiological phimosis, parental desire in children unable to undergo circumcision as a newborn and the greater cultural acceptance that may lead to a lower threshold for surgical recommendation.

REASONS OPPOSING CIRCUMCISION

The primary arguments against newborn circumcision include surgical complications, procedural pain, decrease in sexual function and ethics of the loss of genital integrity without consent. Unfortunately the quality of the literature is not nearly as rich in these areas, particularly as related to sexual functioning.

Surgical complications. The true incidence of complications after circumcision is unknown, in part due to differing opinions about what constitutes a complication and what subsequent conditions should be attributed as a complication of the circumcision. Adding to the confusion is the separation of acute complications, such as bleeding or infection, which are uncommon, from late complications, such as adhesions, meatal stenosis and an unacceptable cosmetic outcome, which may be more common.

Based on 2 large hospital series the risk of a significant acute newborn circumcision complication in the United States is low at 0.2%, or 1/ 500 circumcisions.^{53,56} Bleeding was the most common complication (0.08% to 0.18%), followed by infection (0.06%) and penile injury (0.04%). However in a smaller series using hand reviewed medical records, complications were found to be much more common at 3.1%, with bleeding in 2.1%, although the majority of these were mild in nature and did not require operative intervention.⁵⁷ A limitation of these large series is their reliance on hospital billing records, which miss those complications for which treatment did not rise to the level of a billable event, as well as those children who undergo circumcision outside the hospital or whose complication is cared for outside the birth hospital.

Late complications of newborn circumcision include excessive residual skin (incomplete circumcision), excessive skin removal, adhesions (natural and vascularized skin bridges), meatal stenosis, phimosis (trapped penis) and epithelial inclusion cysts. Late complications in an outpatient based study included adhesions (25.6%), redundant residual prepuce (20.1%), balanitis (15.5%), skin bridge (4.1%) and meatal stenosis (0.5%).⁵⁸ It also must be noted that the treatment for many of these complications, in particular meatal stenosis, penile skin bridges, inclusion cysts and incomplete circumcision, requires formal operative intervention. While the true incidence of these late complications is not well established, as there are few studies of the U. S. experience, their incidence is clearly not trivial. In particular complications that are primarily cosmetic are difficult to adequately quantify.

The majority of severe or even catastrophic injuries are of such a rare nature as to be reported as case reports without a clear sense of their overall incidence. Significant reported complications include glans or penile amputation,⁵⁹⁻⁶⁷ Herpes transmission,^{68,69} methicillin resistant *Staphylococcus aureus* infection,⁷⁰ urethral cutaneous fistula,⁷¹ glans ischemia⁷² and death.⁷³ Although anecdotal, several years ago at the AAP annual meeting of the Section on Urology when the question was raised from the podium as to who had ever taken care of a

patient with a partial glans amputation, nearly every hand was raised. So while extremely rare and given the absolute volume of circumcisions performed in the U. S. every year being greater than 1 million, these potentially devastating complications clearly occur.

Concerns raised by anti-circumcision activists. Sexual Effects: A frequent concern among anti-circumcision activists is a belief that circumcision results in decreased sexual satisfaction. This has been a particularly difficult topic to rigorously study. A primary limitation is the difficulty with defining or measuring sexual satisfaction. As opposed to a physiological response that can be timed or measured, sexual satisfaction is multifactorial and a matter of personal perception. The argument made by activists comes from 2 sources. Men report dissatisfaction regarding their experiences following circumcision either as a newborn or an adult. The other line of reasoning starts with the finding on pathological review that the prepuce is richly innervated with sensory nerves.⁷⁴ There have also been reports that there is decreased penile sensitivity,^{75,76} although a recent report refutes those claims.⁷⁷ There are other methodologically rigorous studies that in general do not support any significant loss of sensation or decreased sexual satisfaction.^{78,79}

Studies have demonstrated longer ejaculatory latency times but it is unclear if this leads to an increase or decrease in satisfaction.^{80,81} In a study of female partner satisfaction the majority reported increased satisfaction following circumcision.⁸² The research in this area remains limited and often contains significant concerns of bias. As a bottom line it is unclear whether or how the physical changes to the phallus associated with circumcision, particularly as a newborn, will affect sexual satisfaction in the eventual adult. However, one can take as some reassurance that in the majority of studies the baseline level of sexual satisfaction in adult men is high.

Decisional Regret: There is no meaningful literature on decisional regret after circumcision by parents or adult men circumcised as an infant. However, there is a significant number of men within the anti-circumcision movement who express anger regarding their physical state as well as an underground movement of men interested in foreskin restoration and a variety of products to meet that desire. Likewise, there clearly is an unquantifiable amount of adolescents and young men who seek circumcision for similarly personal reasons.

Medical ethics. One of the most challenging areas is that of the ethics of altering the child's body without his consent. While parents are frequently asked to consent on the child's behalf about their medical treatment, circumcision is somewhat unique as it is non-therapeutic at the time of its performance. In addition, many of the benefits expressed by the parents are non-medical such as cultural, religious and esthetic considerations. Although one can suggest that there may be a prophylactic effect for certain medical conditions, these conditions are generally uncommon and not present at the time, and it is not clear that any individual newborn is at increased risk for the conditions.

It was the expressed opinion of the AAP that the ethical standard to be applied is that of the best interest of the child. As circumcision is non-therapeutic and in the absence of a clear metric by which to weigh the risks and benefits, parents are the best equipped to determine what is in the best interest of the child.¹⁹ Furthermore, within the pluralistic framework of American society, parents should be afforded wide latitude

in determining what is appropriate for their child. Thus it is considered legitimate for parents to consider their cultural, religious and ethnic traditions along with the medical information when making their decision.¹⁹

As with many ethical questions, this stance is not universally accepted. Many European physicians and anti-circumcision activists believe that a more appropriate ethical standard is one's right to bodily integrity, and they consider circumcision a violation of the Universal Declaration of Human Rights and the International Convention on Civil and Political Rights.⁸³ Most pediatric medical societies have come out strongly opposed to newborn circumcision, including the Canadian Pediatric Society, the pediatric associations of Germany, Sweden and Holland, and the Royal Australasian College of Physicians. There have been attempts to outlaw the procedure.⁸⁴ These societies have remained conflicted as to how to address those families who wish to have the procedure performed due to strongly held religious conviction.

Regardless of their personal opinions, physicians have a moral obligation to avoid any coercion, and to provide unbiased and complete information. Those performing the procedure should do everything in their power to reduce the risk and suffering associated with the procedure, such as providing adequate pain management and having the procedure performed by well trained personnel in a hygienic environment.

FUTURE HEALTH EXPENDITURES

With the decreasing incidence of circumcision there has been great interest in how that will affect future health care expenditures. In particular one of the major drivers of the decline is due to removal of circumcision as a covered item in the Medicaid program in 17 states, which has become a matter of public policy. There have been numerous studies in the U. S. and Canada where circumcision is not covered under the public health system attempting to evaluate these issues.^{55,85-87} While most studies have shown circumcision to be cost-effective, they are badly flawed. Most of the studies only look at the effect on a single disease such as STIs, HIV or penile cancer. The effectiveness of disease prevention attributed to circumcision can be subject to cherry picking given the wide disparity in the literature. Lastly none of the studies is comprehensive or includes the costs of circumcision complications. If you start with the premise that newborn circumcision (which has a low initial cost) can prevent a variety of conditions with a high treatment cost, such as HIV, and fail to include the whole cost of circumcision then it is not difficult to show a cost savings. These analyses will require a more comprehensive approach if they are to provide public health officials with meaningful data.

CONCLUSION

Newborn circumcision remains a controversial topic with really no resolution in site. The problem is that while all can agree there are some medical benefits that can be achieved in a population, there is no promise that these medical benefits will apply to that individual. At the same time there are also risks to the individual and that individual has no role in assessing or consenting to those risks. The challenge we are left with is how to balance these values. There is no definitive metric and people of good conscience can disagree, which has created an arms race in the medical literature between those searching for benefits and those highlighting the risks and ethical concerns. However,

it is unlikely either side will ever deliver a knockout punch that will make circumcision mandatory or forbidden. No medical organization advocates that the benefits are so great that universal circumcision is mandatory, especially for the U. S. or European child. At the same time it is an overstatement to say the risks are so great that the procedure should be outlawed, especially for parents who believe circumcision is important for their child for religious or cultural reasons.

We as counseling providers must be aware of both sides of the controversy. We may be more comfortable with the statistics and comparisons of the medical literature but we will need to understand the motivations of parents and be able to counsel in a non-judgmental, non-coercive manner with respect, setting aside our own biases. Hopefully with time, education and a respectful dialogue we can reach a state in which we can accept that when it comes to the penis there can be a more broader definition of normal.

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EDITORIAL COMMENT

Newborn circumcision can generate great emotion and intense debate. Dr. Freedman has provided us with an excellent review on this topic. Circumcision is one of the most commonly performed surgical procedures and yet the decision to proceed with circumcision is often based more on tradition than evidence-based medicine. Most parents do not receive or seek much information during the consent process, although that seems to be changing in recent years. Although most procedures are performed without incident, many children require additional surgeries and as described in this lesson some serious complications can occur. The amount of time spent dealing with circumcision problems has certainly increased during my 30+ years of pediatric urology practice. My colleagues and I spend a fair amount of time teaching our primary care docs the technique of circumcision. Even more time is spent discussing who should not undergo circumcision. This Update will be a great resource for those efforts.

Michael L. Ritchey, MD
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Study Questions Volume 36 Lesson 23

1. The percentage of men around the world who are circumcised is
 - a. <10
 - b. 25-30
 - c. 40-60
 - d. >75
2. The most recent AAP guidelines state that
 - a. there is no medical benefit from circumcision
 - b. the benefits of circumcision outweigh the risks
 - c. circumcision should be recommended for all children
 - d. circumcision is unethical and a form of child abuse
3. Circumcision reduces the risk of urinary tract infections
 - a. by a factor of 4 to 10x
 - b. only in gram positive infections
 - c. only in children with an underlying anatomical abnormality
 - d. in adolescents
4. Circumcision is believed to reduce penile cancer by
 - a. reducing the amount of skin that is exposed to trauma
 - b. preventing HPV infections
 - c. preventing phimosis
 - d. promoting keratinization of the glans
5. Which effect of circumcision is not thought to have a role in protection against HIV?
 - a. Removal of mucosal surface
 - b. Reduced risk of tears due to sexual trauma
 - c. Reduction in Langerhans cells in the inner prepuce
 - d. Reducing high risk sexual behavior

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