To Circ or Not: A Reappraisal

Asma Ahmed and Pamela Ellsworth

Neonatal circumcision is one of the most commonly performed procedures in the United States. It is probable that no procedure has met with such controversy over time and continues to remain controversial. A prior article published in Urologic Nursing (Steadman & Ellsworth, 2006) reviewed the current data on pediatric circumcision. Since that time, the circumcision controversy has been rekindled by results of the circumcision and HIV trials in Africa and the policy statement by the Centers for Disease Control and Prevention (CDC) in response to these data. Although these studies were performed in adults, the CDC recommends the results of these trials be discussed with parents considering circumcision for their male infant or child.

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Note: Objectives and CNE Evaluation Form appear on page 19.

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Note: The authors reported that this article contains a discussion of off-label use of betamethasone cream and other topical steroids for phimosis and preputial adhesions.

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Routine circumcision remains a topic of controversy. The most recent male circumcision policy from the American Academy of Pediatrics argued that data were insufficient to recommend routine circumcision. Recent trials in Africa evaluating male circumcision for the prevention of sexually transmitted diseases have, however, revived the circumcision controversy.

Key Words: Phimosis, circumcision, penile cancer, sexually transmitted disease (STD), human immunodeficiency virus (HIV).

Objectives
1. Define circumcision.
2. Discuss the history of circumcision in the United States and around the world.
3. Explain the possible connection of circumcision and the decreased rate of HIV and other sexually transmitted diseases in circumcised males and their partners.

History
The word “circumcision” comes from Latin circum, meaning around, and caedere, meaning to cut. The oldest evidence for circumcision comes from ancient Egypt, with early depictions of circumcision in cave paintings and Ancient Egyptian tombs (Gollaher, 2000; Hodges, 2001). Circumcision was common, but not universal, among ancient Semitic people. After the conquests of Alexander the Great, there was a decline in the incidence of circumcision as a result of the Greek dislike of circumcision. The Greeks felt that man was only truly “naked” when his prepuce was retracted (Gollaher, 2001). Religious and cultural circumcision is commonly performed. Religious male circumcision is considered a commandment from God in Judaism (First Book of Moses, Genesis 17:1-14). In Islam, circumcision is widely practiced and is considered to be a sunnah (Rizvi, Naqvi, Hussain, & Hasan, 1999). Circumcision has ancient roots among several ethnic groups in sub-equatorial Africa, and is performed on adolescent boys to symbolize their transition from childhood to warrior status or adulthood (Marck, 1997).
Infant circumcision was recognized in the United States around 1900. A variety of theories propagated the adoption of circumcision. The germ theory of disease and the resultant “germ phobia” made the public suspicious of dirt and bodily secretions. The penis was deemed “dirty” by association with its function, and as a result, circumcision was seen as preventative medicine to be practiced universally. Circumcision was also viewed as a method of treating and preventing masturbation (Gollaher, 1994). This practice was also said to protect against syphilis, phimosis, paraphimosis, balanitis, and “excessive venery,” which was believed to cause paralysis (Gollaher, 2001). Approximately 32% of newborn males were circumcised in 1933, and the rates increased steadily to 85% in 1965 (Laumann, Masi, & Zuckerman, 1997).

United States

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Circumcision Trends

The United Kingdom was one of the first countries to critically look at neonatal circumcision. In 1949, the United Kingdom’s National Health Service removed infant circumcision from its list of covered services, and circumcision has since been an out-of-pocket expense to parents (Gairdner, 1949). Similarly, the circumcision rate has sharply declined since 1971 in Australia because the official policy of the Australian College of Pediatrics has been to discourage circumcision of newborns.

Circumcision statistics in the United States are difficult to obtain because of the many locations in which circumcisions are performed. Different sources provide varying rates, and circumcision frequency varies from year to year. In the late 1940s and early 1950s, 76% of boys were circumcised, of which, approximately 80% were Caucasian and 45% were African American (Wirth, 1980). Data used from the National Health and Social Life Survey, which questioned men born between 1932 through 1971, reported an overall incidence of circumcision in U.S. men of 77%, ranging from a low of 31% in 1932 to a high of 85% in 1965 (Laumann et al., 1997). The circumcision rate has subsequently varied with the guidelines set forth by the American Academy of Pediatrics (AAP) and the American Medical Association (AMA). In 1971, there were no valid indications for circumcision in the neonatal period (AAP Committee on Fetus and Newborn, 1971). After this statement, the nationwide incidence of circumcision continued to decrease slowly. However, in 1989, AAP concluded that circumcision had “potential benefits” (AAP Task Force on Circumcision, 1989). This statement was associated with a cessation in the declining circumcision rate. In 1999, AAP revised its statement, stating that data on neonatal circumcision were not sufficient to recommend the practice of neonatal non-therapeutic circumcision (AAP Task Force on Circumcision, 1999). Shortly thereafter, AMA declared that circumcision was a non-therapeutic procedure (Council on Scientific Affairs, 1999). Following these two statements, the percentage of circumcised boys declined as parents opted for genital integrity.

Most professional organizations, including the Canadian Paediatric Society Fetus and Newborn Committee (1996), the Royal College of Surgeons of England et al. (2000), the British Medical Association (2006), the Royal Dutch Medical Association (2012), and the Royal Australasian College of Physicians (2010), currently have policies that do not promote non-medical neonatal circumcision. The American Urological Association (AUA) believes that neonatal circumcision has potential medical benefits and advantages as well as disadvantages and risks. AUA also notes that when circumcision is being discussed with parents and informed consent is obtained, medical benefits and risks, as well as ethnic, cultural, religious, and individual preferences, should be considered. The risks and disadvantages of circumcision are encountered early, whereas advantages and benefits are prospective (AUA, 2007).

Dealing with the Uncircumcised Male

The decline in neonatal circumcision worldwide, particularly in the United States, has resulted in pediatricians caring for more uncircumcised males. Many physicians are not familiar with the care of the uncircumcised male phallus and the normal process of foreskin retraction. Infants and young children may be referred to a pediatric urologist or pediatric surgeon for circumcision as a result of a physiologic non-retractable foreskin, physiologic phimosis, or preputial adhesions.
Phimosis is a condition in which the narrowed foreskin cannot be retracted. This can be physiologic or pathologic. This term, when applied to newborns, refers to a physiologic process in which there may be difficulty retracting the foreskin due to naturally occurring adhesions between the prepuce and the glans. During the first few years of life, the accumulation and release of smegma, as well as nocturnal erections, serve to physiologically lyse the preputial adhesions and allow the foreskin to retract. At birth, approximately 96% of male infants have physiologic phimosis, and by 3 years of age, the foreskin can be retracted in 90% of uncircumcised males (Choe, 2005).

Pathologic phimosis can occur at any age and may be caused by forceful tearing of the foreskin by attempts at retraction at an earlier age, chronic balanoposthitis (scarring of the glans and/or foreskin as a result of inflammation and scarring), phimotic ring (an area of narrowed foreskin that does not relax with retraction and may be secondary to scarring), frenulum breve, and persistent infant adhesions. Although the majority of children have a retractable foreskin by 3 years of age, persistence of a non-retractable foreskin, either from a phimotic ring or persistent preputial adhesions, does not necessitate circumcision in the majority of cases. Topical steroid therapy, most commonly 0.05% betamethasone, is an effective method of treating the phimotic ring, with success rates ranging from 73% to 95% (see Table 1). In the authors’ practice, topical betamethasone cream 0.05% has also proven to be an effective treatment for persistent preputial adhesions (personal communication, Anthony Caldamone, MD). Thus, from a clinical standpoint, the majority of newborns will ultimately have a retractable foreskin, either naturally or through the use of topical steroid therapy.

Not all infants are candidates for neonatal circumcision. Contraindications to neonatal circumcision include prematurity, family history of bleeding disorder, hypospadias/epispadias, webbed penis, micropenis, megalourethra, ambiguous genitalia, bilateral large hydroceles, buried/concealed penis, and congenital penile lymphedema. If an anomaly is present, then circumcision should be deferred and the child referred to a pediatric urologist for further management. Medical indications for circumcision include recurrent urinary tract infections, severe balanoposthitis, balanitis xerotica obliterans, vesicoureteral reflux, paraphimosis, and children with neuropathic bladders in whom intermittent catheterization is required (Steadman & Ellsworth, 2006).

**Risks of Circumcision**

In a systematic review of the complications associated with circumcision in male neonates, infants, and children, few severe complications were reported. However, mild or moderate complications were seen, especially when circumcision was undertaken at older ages, by inexperienced providers, or in non-sterile conditions (Weiss, Larke, Halperin, & Schenker, 2010). Table 2 lists complications associated with circumcision. Careful preoperative assessment may help decrease the likelihood of buried/trapped penis, penile degloving, and bleeding in those with a family history of bleeding disorder.

**Management of Refractory Phimosis And Preputial Adhesions**

For children who fail topical steroid therapy for phimosis and/or persistent preputial adhesions, surgical intervention may be warranted. However, alternatives exist to circumcision in these children. For persistent preputial adhesions, lysis of the adhesions may be performed using topical lidocaine/prilocaine eutectic mixture (EMLA) in the office or under general anesthesia. Careful retraction and cleaning will help prevent recurrence of the preputial adhesions. For the child with persistent phimosis, alternative options include dorsal slit and prepuce plasty procedures. The dorsal slit is limited by the resulting abnormal appearance to the penis because the dorsal prepuce falls laterally and ventrally after the procedure. Prepuce plasty can be performed in a variety of manners, but the technique centers on making one or more longitudinal full-thickness incisions across the stenotic ring and approximating the defect transversely to gain width to the stenotic ring. Such procedures, however, require general anesthesia, and thus, many parents will opt for circumcision instead when faced with the need for general anesthesia.

**The Circumcision Debate: Beyond the Child**

Historically, proponents of neonatal/pediatric circumcision have highlighted the risk of penile cancer in uncircumcised males in addition to hygiene-related issues, such as balanitis (inflammation of the glans alone) and balanoposthitis (inflammation of the glans and foreskin). However, more recent studies have demonstrated health-related benefits of circumcision, particularly in high-risk male populations.

**Penile Cancer**

Penile cancer typically occurs in males 50 to 70 years of age (Barnholtz-Sloan, Maldonado, Pow-Sang, Giulano, 2007; Favorito et al., 2008; Peterson, Sjödin, Holmberg, & Windahl – The Steering Committee of the National Penile Cancer Register in Sweden, 2007). The incidence of penile cancer is rare in most developed countries. Higher rates, how-
Table 1.
Success Rate of Topical Steroid Therapy for Phimosis

<table>
<thead>
<tr>
<th>Authors</th>
<th>Agent</th>
<th>Total Number of Patients</th>
<th>Success Rate</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jorgensen &amp; Svensson, 1993</td>
<td>0.05% clobetosol propionate</td>
<td>54</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>Muller &amp; Muller, 1993</td>
<td>0.1% estrogen</td>
<td>30</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>Wright, 1994</td>
<td>0.05% betamethasone</td>
<td>139</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>Dewan, Tieuh, &amp; Chieng, 1996</td>
<td>1% hydrocortisone</td>
<td>20</td>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>Golubovic, Milanovic, Vukadinovic, Rakic, &amp; Perovic, 1996</td>
<td>0.05% betamethasone</td>
<td>20</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td>Lindhagen, 1996</td>
<td>0.05% clobetosol propionate</td>
<td>30</td>
<td>89%</td>
<td></td>
</tr>
<tr>
<td>Atila et al., 1997</td>
<td>Diclofenac sodium</td>
<td>32</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>Chu, Chen, &amp; Diau, 1999</td>
<td>0.06% betamethasone</td>
<td>276</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td>Monsour, 1999</td>
<td>0.05% betamethasone</td>
<td>25</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td>Pless, 1999</td>
<td>0.05% betamethasone</td>
<td>91</td>
<td>74%</td>
<td></td>
</tr>
<tr>
<td>Orsola, Caffaratti, &amp; Garat, 2000</td>
<td>0.05% betamethasone</td>
<td>137</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>Ashfield, Bickel, Siemers, Macneily, &amp; Nickel, 2003</td>
<td>0.1% betamethasone</td>
<td>228</td>
<td>87%</td>
<td></td>
</tr>
<tr>
<td>Ellsworth &amp; Berry, 2005</td>
<td>0.05% betamethasone</td>
<td>59</td>
<td>73%</td>
<td></td>
</tr>
<tr>
<td>Lund, Wai, Mui, &amp; Yeung, 2005</td>
<td>Betamethasone or placebo</td>
<td>137</td>
<td>74% for betamethasone, 44% placebo</td>
<td>Randomized, double-blind study</td>
</tr>
<tr>
<td>Yang, Tsai, Wu, Liu, &amp; Wang, 2005</td>
<td>0.06% betamethasone valerate or clobetasone butyrate 0.05%</td>
<td>70</td>
<td>81.3% for betamethasone, 77.4% for clobetasone</td>
<td></td>
</tr>
<tr>
<td>Lee, Cho, Park, &amp; Lee, 2006</td>
<td>Hydrocortisone vs. Vaseline (control)</td>
<td>78 (39 each group)</td>
<td>89.7% for hydrocortisone, 20.5% with Vaseline (control)</td>
<td></td>
</tr>
<tr>
<td>Pileggi &amp; Vicente, 2007</td>
<td>0.1% mometasone fluorate vs. placebo</td>
<td>110 (56 mometasone, 54 placebo)</td>
<td>88% with mometasone, 52% placebo</td>
<td>Double-blind study</td>
</tr>
<tr>
<td>Ku, Chiu, &amp; Huen, 2007</td>
<td>0.05% betamethasone</td>
<td>138</td>
<td>81.5% success rate</td>
<td></td>
</tr>
<tr>
<td>Palmer &amp; Palmer, 2008</td>
<td>0.05% betamethasone BID vs. TID</td>
<td>200</td>
<td>84.5% response rate with BID vs. 87% with TID</td>
<td>BID for 30 days, TID for 21 days</td>
</tr>
<tr>
<td>Esposito, Centonze, Alicchio, Savanelli, &amp; Settimi, 2008</td>
<td>Mometasone furoate 0.1% vs. placebo</td>
<td>240</td>
<td>65.8% for mometasone, 16.6% for placebo</td>
<td></td>
</tr>
<tr>
<td>Ghysel, Vander Eeckt, &amp; Bogaert, 2009</td>
<td>Potent corticosteroid + skin stretching</td>
<td>462</td>
<td>86% initially, at med f/up 22 mos 83%</td>
<td></td>
</tr>
<tr>
<td>Letendre, Barrias, Franc-Guimond, Abdo, &amp; Houle, 2009</td>
<td>0.1% triamcinolone vs. placebo</td>
<td>43 completed study</td>
<td>76% with triamcinolone, 39% placebo</td>
<td>Randomized, double-blind, placebo controlled</td>
</tr>
<tr>
<td>Zavras, Christianakis, Mpourikas, &amp; Ereikat, 2009</td>
<td>0.05% fluticasone propionate</td>
<td>1,185</td>
<td>91.1%</td>
<td></td>
</tr>
<tr>
<td>Sookpotarom, Porncharoenpong, &amp; Vejchapipat, 2010</td>
<td>0.05% betamethasone</td>
<td>92</td>
<td>85.9%</td>
<td></td>
</tr>
</tbody>
</table>
ever, are found in underdeveloped countries, such as Uganda (2.8 per 100,000). The lowest incidence occurs in Israeli Jews who are circumcised at birth (0.1 per 100,000) (Curado et al., 2007). In 2010, there were an estimated 1,250 new cases of penile cancer and 310 penile cancer-related deaths in the United States (American Cancer Society, 2011).

Risk factors for penile cancer include being uncircumcised, phimosis, smoking, and high-risk human papilloma virus (HPV) (Pow-Sang, Ferreira, Pow-Sang, Nardi, & Destefano, 2010). Studies have demonstrated that uncircumcised males have a greater risk of penile cancer than men who were circumcised at birth (estimated relative risk = 22 uncircumcised men versus 3 circumcised men) (Schoen, Oehrli, Colby, & Machin, 2000).

Neonatal circumcision appears to have a protective role against penile cancer. Circumcision during infancy was inversely associated with invasive carcinoma (odds ratio = 0.41) (Tseng, Morgenstern, Mack, & Peters, 2001). However, circumcision in adulthood does not lower the risk of penile cancer. Schoen et al. (2000) reported that the relative risk of invasive penile cancer for uncircumcised compared to circumcised men was 22:1. Maden and colleagues (1993) noted a 3.2 greater risk of penile cancer in uncircumcised men versus men who had undergone neonatal circumcision. The incidence of penile cancer was 3.0 times greater in men circumcised after the neonatal period (Maden et al., 1993); 20% to 60% of patients with penile cancer have been found to have a history of phimosis (Favorito et al., 2008). Men with a history of phimosis have a 38 to 64.6 relative risk of penile cancer (Hellberg, Valentin, Eklund, & Nilsson, 1987). Other studies have demonstrated a 3.5-fold increased risk associated with difficulty retracting the foreskin (Maden et al., 1993). There are limitations in the aforementioned studies in that they failed to consider other risk factors for penile cancer, such as personal hygiene, smoking, and the number of sexual partners.

One of the most important factors in preventing penile cancer in uncircumcised men is good genital hygiene. Inability to retract the foreskin (phimosis) has a detrimental effect on personal hygiene, and thus, is a risk factor. HPV infection and smoking are also risk factors for penile cancer.

Current society/organizations recommendations. The American Cancer Society and AAP have each issued a statement regarding the possible relationship between the uncircumcised penis and penile cancer, and are presented below.

The American Cancer Society (2009): “Most public health researchers believe that the risk of penile cancer is low among uncircumcised men without known risk factors living in the United States and that most experts agree circumcision should not be recommended solely as a way to prevent penile cancer.”

AAP Task for on Circumcision (1999): Studies suggest that neonatal circumcision confers some protection from penile cancer, but circumcision at a later age does not seem to confer the same level of protection. Further, because penile cancer is a rare disease, the risk of penile cancer developing in an uncircumcised man, although increased compared with a circumcised man, remains low.

Human Immunodeficiency Virus (HIV) and Sexually Transmitted Disease (STD) Risks in the Male with an Intact Foreskin

Probably the most well-defined, health-related risk in select populations of adult males with an intact foreskin is the risk of acquiring HIV. Studies have also demonstrated that men with an intact foreskin are at increased risk for sexually transmitted diseases (STDs).

The protective effect of male circumcision against the acquisition of HIV infection was first noted in 1986 (Fink, 1986). Recent studies have confirmed that medically performed circumcision can significantly lower the risk of adult males acquiring HIV through heterosexual intercourse. Ultimately, adult
male circumcision in high-risk populations could also lead to reduced HIV transmission to female partners, thus also decreasing the risk of HIV infection of offspring.

Three large, randomized controlled trials conducted in Sub-Saharan African men concluded that circumcision reduced the incidence of HIV/AIDS by 50% to 60%. Data were so compelling that all three studies were terminated prior to their designated completion dates because it was deemed unethical to continue the research without offering circumcision to the control group (Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007). These three trials provided strong evidence that male circumcision can significantly decrease the risk of HIV acquisition in the contexts in which the trials were conducted (settings of high HIV prevalence, low circumcision prevalence, and predominantly heterosexual HIV transmission dynamics).

In the HIV Network for Prevention Trials HIV-Vaccine Preparedness Cohort Study, uncircumcised men having sex with men were twice as likely to acquire HIV infection as compared to circumcised men after adjustment for sexual behaviors, age, and insurance status (Buchbinder et al., 2005). In a cross-sectional study of heterosexual men attending an STD clinic, among patient visits with known exposure to HIV, circumcision was significantly associated with reduced HIV prevalence (10.2% vs. 22.0%, odds ratio = 0.42, 95% confidence interval, 0.20, 0.92) (Warner, Ghanem, Newman, Macaluso, & Erbelding, 2006).

An HIV prevention trial conducted in HIV-discordant couples in Uganda demonstrated that male circumcision was associated with a significantly decreased HIV transmission rate to uninfected spouses, 0.0/47 in couples with circumcised males versus 9.6/100 in couples with uncircumcised males (Gray et al., 2000).

The association between male circumcision and HIV infection is biologically plausible. The inner foreskin is less keratinized than the glans of the circumcised penis and the skin of the penile shaft (Szabo & Short, 2000). Thus, the inner foreskin of the uncircumcised male is more susceptible to epithelial disruption and is a less effective physical barrier to infection (Halperin & Bailey, 1999; Szabo & Short, 2000; Weiss, Thomas, Munabi, & Hayes, 2006). The foreskin also has a greater concentration of HIV target cells than other penile tissue (Patterson et al., 2002). It also provides an increased mucosal surface area that would be exposed to HIV-containing secretions. The prepuce also traps secretions, resulting in prolonged contact with the mucosa. By reducing the ability of the virus to attach to and penetrate cells, male circumcision may directly reduce the risk of acquiring HIV.

Application in the United States

Some may argue that compared to Sub-Saharan Africa, the risk of HIV acquisition from heterosexual intercourse is much lower in the United States, and thus, question the applicability of the African studies to the U.S. male population. Sansom and colleagues (2010) evaluated the cost-effectiveness of circumcision in HIV prevention in the U.S. and modeled the potential effect of newborn male circumcision on a U.S. male’s lifetime risk of HIV, including associated costs and quality-adjusted life-years saved. Results showed that newborn circumcision resulted in a 16% reduction of the 1.87% lifetime risk of acquiring HIV infection among all males. This lowers the expected HIV-related treatment costs significantly and slightly increases the quality-adjusted life years among circumcised versus uncircumcised males (Sansom et al., 2010).

In April 2007, the CDC held a 2-day consultation to obtain input on the potential role of male circumcision in preventing transmission of HIV in the U.S. The consultants suggested that 1) sufficient evidence exists to propose that heterosexually active males be informed about the significant but partial efficacy of male circumcision in reducing risk for HIV acquisition and be provided with affordable access to voluntary, high-quality surgical and risk-reduction counseling services; 2) information about the potential health benefits and risks of male circumcision should be presented to parents considering infant circumcision, and financial barriers to accessing male circumcision be removed; and 3) insufficient data exist about the impact (if any) of male circumcision on HIV acquisition by men who have sex with men, and additional research is warranted (Smith et al., 2010).

Circumcision and Risk Of Acquiring Sexually Transmitted Diseases (STDs)

Circumcision may also indirectly decrease HIV infection by reducing other sexually transmitted diseases associated with an increased risk of HIV acquisition. Neonatal male circumcision may reduce the risk of STD acquisition by up to 48.2%. Uncircumcised males have a 3-fold greater risk of acquiring STDs than circumcised males. Circumcised males have a reduced incidence of ulcerative STDs, including syphilis, chancroid, and herpes (Hira et al., 1990; Quigley, Weiss, & Hayes, 2001; Weiss et al., 2006). The incidence of herpes virus type 2 was decreased by 28% to 34%. Among female partners of circumcised men, bacterial vaginosis was reduced by 40%, and trichomonas vaginals infection was reduced by 48% (Tobian, Gray, & Quinn,
Male circumcision is also protective against HPV infection of the urethra, glans penis, and penile shaft. The incidence of penile HPV is lower in circumcised men, reduced by 32% to 35%. The findings of the Sub-Saharan African Trials indicated that circumcision is an effective intervention for reducing penile HPV infection in men. Male circumcision reduces the incidence of multiple high-risk HPV infections and increases clearance of high-risk HPV infections in men not infected with HIV (Gray et al., 2010). Some observational studies (Castellsague et al., 2002; Drain, Halperin, Hughes, Klausner, & Bailey, 2006), but not all (Brinton et al., 1989), have demonstrated that female partners of circumcised men have a significantly reduced risk of cervical cancer. Brinton and colleagues (1989) did not identify an association between HPV expression in males and cervical cancer in female partners. However, they noted their results may have reflected sampling problems in the rate or the importance of host factors, which could enhance viral carcinogenesis (Brinton et al., 1989). Although current studies have been unable to demonstrate definitive effects, it is likely that male circumcision decreases HPV infection in female partners, and consequently, may decrease the risk of cervical cancer (Tobian et al., 2010). Decreasing HPV infection can also decrease the risk of HPV-associated penile cancers. A little over 81% of penile cancers are associated with high-risk HPV (Senba et al., 2006).

Summary

Neonatal/infant circumcision rates in the U.S. vary geographical-ly and have fluctuated in accordance with guidelines set forth by various societies, including AAP. Over the years, however, there has been a trend in favor of a decreasing prevalence of circumcision. The impact of the Sub-Saharan Trials and the CDC’s conclusions regarding the impact on U.S. males on the prevalence of neonatal/penile circumcision remains to be seen. When counseling parents regarding the pros and cons of circumcision, providers need to discuss the potential impact of circumcision on HIV and STD risks, particularly as they apply to higher risk populations.

References


