Circumcision of Privately Insured Males Aged 0 to 18 Years in the United States

WHAT'S KNOWN ON THIS SUBJECT: Neonatal circumcision in the United States has been estimated to be performed in ~58% of all neonates, and varies by US geographic region.

WHAT THIS STUDY ADDS: This study estimates neonatal and postneonatal circumcision rates among commercially insured males aged 0 to 18 years that were performed in both inpatient and outpatient settings. This study also estimates indications and payments for the procedure.

abstract

BACKGROUND: Male circumcision confers protection against HIV, sexually transmitted infections, and urinary tract infections. Compared with circumcision of postneonates (>28 days), circumcision of neonates is associated with fewer complications and usually performed with local rather than general anesthesia. We assessed circumcision of commercially insured males during the neonatal or postneonatal period.

METHODS: We analyzed 2010 MarketScan claims data from commercial health plans, using procedural codes to identify circumcisions performed on males aged 0 to 18 years, and diagnostic codes to assess clinical indications for the procedure. Among circumcisions performed in the first year of life, we estimated rates for neonates and postneonates. We estimated the percentage of circumcisions by age among males who had circumcisions in 2010, and the mean payment for neonatal and postneonatal procedures.

RESULTS: We found that 156 247 circumcisions were performed, with 146 213 (93.6%) in neonates and 10 034 (6.4%) in postneonates. The neonatal circumcision rate was 65.7%, and 6.1% of uncircumcised neonates were circumcised by their first birthday. Among postneonatal circumcisions, 46.6% were performed in males younger than 1 year and 25.1% were for nonmedical indications. The mean payment was $285 for a neonatal and $1885 for a postneonatal circumcision.

CONCLUSIONS: The large number of nonmedical postneonatal circumcisions suggests that neonatal circumcision might be a missed opportunity for these boys. Delay of nonmedical circumcision results in greater risk for the child, and a more costly procedure. Discussions with parents early in pregnancy might help them make an informed decision about circumcision of their child. *Pediatrics* 2014;134:950–956

AUTHORS: Geoffrey D. Hart-Cooper, MD,[a,b] Guoyu Tao, PhD,[a] Jeffrey A. Stock, MD,[c] and Karen W. Hoover, MD, MPH[a]

[a]Division of STD Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia; [b]The CDC Experience Applied Epidemiology Fellowship, Scientific Education and Professional Development Program Office, Centers for Disease Control and Prevention, Atlanta, Georgia; and [c]Departments of Pediatrics and Urology, Mount Sinai Hospital, New York, New York

KEY WORDS

circumcision, neonatal, postneonatal

ABBREVIATIONS

CI—confidence interval
ICD-9—*International Classification of Diseases, Ninth Edition*
RR—risk ratio
STI—sexually transmitted infection
UTI—urinary tract infection

Dr Hart-Cooper designed the study, carried out analyses, and drafted the manuscript; Dr Tao conceptualized and designed the study and carried out analyses; Dr Stock conceptualized and designed the study; Dr Hoover conceptualized and designed the study and reviewed and revised the manuscript; and all authors approved the final manuscript as submitted.

www.pediatrics.org/cgi/doi/10.1542/peds.2014-1007

doi:10.1542/peds.2014-1007

Accepted for publication Aug 20, 2014

Address correspondence to Karen W. Hoover, Centers for Disease Control and Prevention, 1600 Clifton Rd NE MS E45, Atlanta, GA 30329. E-mail: khoover@cdc.gov

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: This study was supported by the Centers for Disease Control and Prevention.

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

Male circumcision is one of the most frequently performed surgical procedures in the United States. An estimated 80.5% of US males aged 14 to 59 years reported they were circumcised.[1] Circumcision is usually performed for nonmedical reasons, but can be performed for medical reasons such as to repair a congenital anomaly or to treat a medical condition associated with the foreskin. Social norms, religious beliefs, and perceived health benefits have influenced the uptake of nonmedical circumcision over time.[2–4] In recent years, several studies have provided evidence that circumcision confers health benefits which are estimated to outweigh risks 100 to 1.[5] An uncircumcised male is almost 10 times more likely to have a urinary tract infection (UTI) during infancy, and 4 times more likely to have a UTI during his lifetime.[6] Upon initiation of sexual activity, circumcision protects young men and their partners from sexually transmitted infections (STIs), including infection with HIV, herpes simplex virus, and human papillomavirus.[7–10] National data have revealed that circumcision prevalence varies by insurance status, ranging from 72.0% of uninsured males to 84.4% of privately insured males.[1] Although health insurance increases access to nonmedical circumcision, coverage of this surgical procedure varies by the type of health insurance plan. Private health plans usually cover the cost of newborn circumcision, but Medicaid plans do not provide coverage for the procedure in 18 states.[11] In both private and public health plans, coverage of nonmedical circumcision for older boys is less common and can decrease access to this procedure.[12]

Circumcision provides the greatest health benefits and is most cost-effective when the procedure is performed as a neonate (≤28 days).[2,13] Neonatal circumcision has a low rate of complications, is inexpensive, and is usually performed in the newborn nursery by using local anesthesia. In contrast, postneonatal circumcision (performed at >28 days) has a higher complication rate, and often includes general anesthesia, which increases the risk and cost of the procedure.[14] The decision to use general anesthesia varies by provider; however, its use is often recommended after 4 months of age.[15] Because neonatal circumcision is performed shortly after birth, it provides nearly lifelong protection. If circumcision is performed after infancy, its protective benefits against UTIs during infancy are lost. If circumcision is performed after sexual debut, its benefits in reducing the risk of HIV infection and STIs are decreased.[2,6] In the United States, neonatal circumcision rates have decreased in recent years.[5,16] Few studies have estimated postneonatal circumcision rates, and have included only small samples with data derived from medical record reviews.[17–20] In our study, we analyzed data in a large database of administrative billing claims for both inpatient and outpatient encounters to estimate neonatal and postneonatal circumcision rates through the first year of life; the frequency of circumcision by age and clinical indication; and differences in payment for neonatal and postneonatal circumcision.

METHODS

We analyzed data from the MarketScan database for service provided between January 1, 2010, and December 31, 2011.[21] MarketScan is the largest sample of employer-sponsored commercial health insurance plans in the United States. MarketScan includes inpatient and outpatient billing claims for health care services received by more than 40 million persons insured in ∼100 commercial health plans, and with a geographic distribution that reflected the US population.[22,23] We included all males aged 0 to 18 years, and identified circumcisions by using *International Classification of Diseases, Ninth Edition* (ICD-9) procedural codes (64.0, V50.2) and *Current Procedural Terminology* codes (54150, 54142, 54160, 54161). Some health plans bundled the infant's circumcision charges with his mother's delivery charges,[12] so we also included circumcisions that were billed to mothers of male neonates. This study was determined to be exempt from review by the Centers for Disease Control and Prevention Institutional Review Board because MarketScan data do not include personal identifying information.

We estimated demographic characteristics of males aged 0 to 18 years who were enrolled in commercial health plans in the MarketScan database. We determined the number of circumcisions in a cohort of male infants in this database who were identified by their dates of birth in 2010, and who were enrolled in a health plan for at least 1 year through their first birthdays in 2011. The dates of birth were available for 81.7% of male infants in the MarketScan database. To estimate the total number of infants younger than 1 year in the database who were circumcised as neonates and as postneonates, we extrapolated the circumcision rates from the cohort with known dates of birth; we assumed that the same percentage of neonatal circumcisions were performed among circumcised infants with unknown dates of birth, compared with those with known dates of birth in whom we were able to estimate the percentage circumcised as neonates.

To allow estimation of the number of postneonatal circumcisions and the association with various factors among males aged 1 to 18 years, we performed a cross-sectional analysis of 2010 MarketScan data. Using these cross-sectional data, we estimated neonatal and postneonatal circumcision rates among infants younger than 1 year by maternal age, maternal length of stay for the delivery, US geographic region, and urban versus rural location. In univariate analyses, we estimated the

strength of association of these variables with circumcision by using the χ^2 test, with a P value $< .05$ indicating a statistically significant association. We included variables that were found to be significant in univariate analyses in a multivariate logistic regression model to estimate the independent association of each variable with circumcision.

Using cross-sectional data for both neonatal and postneonatal circumcisions, we estimated the proportions that were performed by obstetrician-gynecologists, pediatricians, surgeons, family practitioners, or physicians in other specialties. We assessed the clinical indications for circumcision by using ICD-9 codes, and created 3 circumcision categories: nonmedical, medical, and phimosis (ie, unretractable foreskin). We defined a circumcision as nonmedical if it was associated with ICD-9 codes for routine/ritual circumcision; as medical if it was associated with ICD-9 codes for hypospadias, balanitis, balanitis xerotica obliterans, or congenital chordee; or as phimosis if it was associated with ICD-9 codes for phimosis. Phimosis can be an indication for either a nonmedical or medical circumcision depending on its severity,[24] so we grouped all circumcisions for phimosis in a separate category because it was not possible to determine severity to categorize them as nonmedical or medical.

We used MarketScan data for procedure payments to estimate the mean health plan payment for neonatal and postneonatal circumcision, in 2010 US dollars. We calculated payment for circumcisions by applying this mean health plan payment to the total number of circumcisions in the 2010 MarketScan database. All analyses were performed by using SAS version 9.3 (SAS Institute, Inc, Cary, NC).

RESULTS

MarketScan data for 2010 included claims data for 6 068 888 males aged 0 to 18 years (Table 1). The geographic distribution of these males reflected the population density in the United States in 2010, with a greater proportion of males in the southern United States and in urban areas.[25] The MarketScan database included 27.3% the 22 226 000 males aged 0 to 18 years in the United States with employment-based health insurance in 2010.[25] In our birth cohort, we identified 222 546 male births in 2010 in the MarketScan database, which represent 11.0% of 2.03 million male births in the United States in 2010.[26] Among these 222 546 males, 146 213 (65.7%) were circumcised as neonates and 150 886 (67.8%) were circumcised by 1 year of age. Among 76 333 uncircumcised neonates, 4673 (6.1%) were circumcised by 1 year: 2893 (3.8%) were circumcised between 29 days and 3 months of age, 579 (0.8%) were circumcised between 4 and 6 months of age, and 1201 (1.6%) were circumcised between 7 months and 1 year of age.

In our cross-sectional analysis, we found that 156 247 total circumcisions of males aged 0 to 18 years were performed in 2010. Among these circumcisions, 146 213 (93.6%) were performed in neonates, and 10 034 (6.4%) were performed in postneonates (Table 2). Among postneonatal circumcisions, 4673 (46.6%) were performed in boys younger than 1 year and 5361 (53.4%) were performed in males aged 1 to 18 years. For circumcisions among boys younger than 1 year, 2893 (61.9%) were 29 days to 3 months of age, 579 (12.4%) were 4 to 6 months of age, and 1201 (25.8%) were 7 months to 1 year of age. For circumcisions among males aged 1 to 18 years, 3217 (60.0%) were aged 1 to 6 years, 1201 (22.4%) were aged 7 to 12 years, and 943 (17.6%) were aged 13 to 18 years (Fig 1). The number of circumcisions decreased with age among males aged 0 to 18 years ($P < .05$). The mean age of neonatal circumcision was 1.3 days old, and mean age of postneonatal circumcision among infants during their first year was 124 days old.

TABLE 1 Demographic Characteristics of Males Aged 0 to 18 Years (N = 6 068 888), MarketScan 2010

Characteristics	*N* (%)
Age, y	
0	222 546 (3.7)
1–4	1 124 328 (18.5)
5–9	1 549 046 (25.5)
10–14	1 703 184 (28.1)
15–18	1 469 784 (24.2)
Region	
Northeast	856 450 (13.5)
North Central	1 522 508 (24.1)
South	2 327 915 (36.8)
West	1 311 050 (20.7)
Urban/rural	
Urban	5 148 651 (81.4)
Rural	872 707 (13.8)
Insurance plan	
Nonmanaged care[a]	4 028 723 (63.7)
Managed care[b]	1 412 301 (22.3)
Other	627 864 (9.9)

[a] Basic/major medical, comprehensive, preferred provider organization.

[b] Health maintenance organization, noncapitated point-of-service, capitated or partially-capitated point-of-service, exclusive provider organization, consumer-driven health plan, high deductible health plan.

The neonatal circumcision rate varied by maternal age, length of hospital stay, US geographic region, and urban versus rural location (Table 2). In a multivariate analysis, a neonate was more likely to be circumcised in the north central (risk ratio [RR]: 1.42, 95% confidence interval [CI]: 1.36–1.49) and southern (RR: 1.38, CI: 1.33–1.44) regions, and in rural areas (RR: 1.32, CI: 1.26–1.38). A neonate was less likely to be circumcised if his mother was aged 15 to 19 years (RR: 0.59, CI: 0.47–0.67), if his hospital stay was 0 to 1 day (RR: 0.90, CI: 0.86–0.95) or 6 or more days (RR: 0.47, CI: 0.43–0.50), or if he was born in the western region (RR: 0.64, CI 0.61–0.66). Most neonatal circumcisions were performed by obstetrician-gynecologists (47.4%) and pediatricians (29.0%). Surgeons performed 1.6% of neonatal circumcisions, and providers in several other specialties performed 22.0%.

Postneonatal circumcision of infants varied by maternal age, length of hospital stay, US geographic region, and urban versus rural location (Table 3). In

TABLE 2 Multivariate Logistic Regression Model of Neonatal (≤28 Days) Circumcision Among Male Births (*N* = 222 546), MarketScan 2010

Characteristics	Circumcisions, *N* (%)	Neonatal Rate (% of Male Births)	Adjusted Risk Ratio (95% CI)
Total	146 213	65.7	
Maternal age, y			
15–19	399 (0.6)	56.2	0.59 (0.47–0.67)
20–29	29 468 (42.1)	68.2	Reference
30–39	37 578 (53.7)	64.9	0.89 (0.87–0.92)
≥40	2532 (3.6)	62.0	0.83 (0.77–0.90)
Length of hospital stay, d			
0–1	5686 (9.2)	62.7	0.90 (0.86–0.95)
2–5	54 853 (88.8)	67.2	Reference
≥6	1242 (2.0)	49.0	0.47 (0.43–0.50)
Region			
Northeast	11 048 (15.2)	61.5	Reference
North central	21 416 (29.4)	70.7	1.42 (1.36–1.49)
South	29 571 (40.6)	70.0	1.38 (1.33–1.44)
West	10 818 (14.8)	53.1	0.64 (0.61–0.66)
Urban/rural			
Urban	63 384 (87.0)	64.7	Reference
Rural	9485 (13.0)	73.1	1.32 (1.26–1.38)

a multivariate analysis, an infant who was uncircumcised as a neonate was more likely to be circumcised in the postneonatal period if his mother was aged 40 years or older (RR: 1.25, CI: 1.03–1.52), if his hospital stay was 6 or more days (RR: 8.68, CI: 7.64–9.86), if he was born in the southern (RR: 1.90, CI: 1.67–2.17) or north central (RR: 1.51, CI: 1.31–1.74) regions, or in rural locations (RR: 1.23, CI: 1.07–1.40). An infant who was uncircumcised as a neonate was less likely to be circumcised if his hospital stays was 0 to 1 day (RR: 0.83, CI: 0.70–0.99). The percentage of postneonatal circumcisions performed by surgeons increased with age: 28.6% of circumcisions of infants aged 29 days through 3 months, 54.8% of circumcisions of infants aged 4 through 6 months, and 66.3% of circumcisions of infants aged 7 months through 1 year.

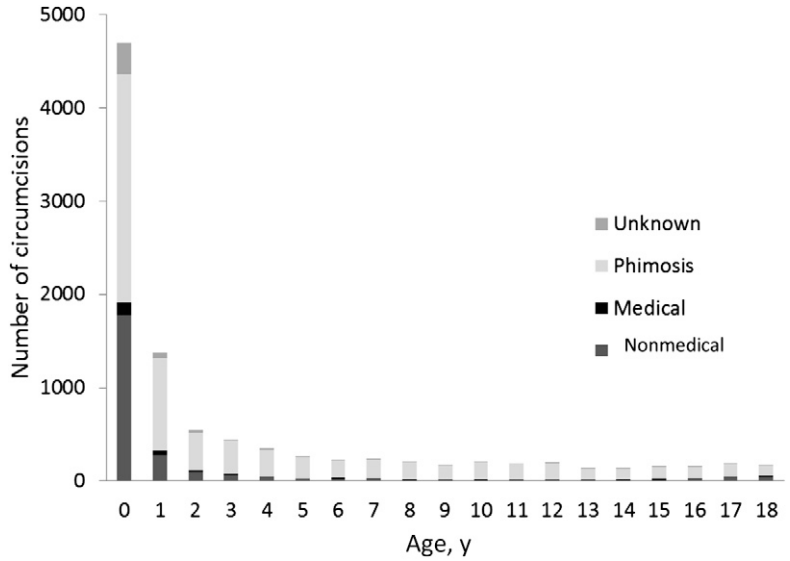

FIGURE 1
Distribution of postneonatal (>28 days) circumcision by age and indication among males aged 0 to 18 years, MarketScan 2010.

Among neonatal circumcisions, 81.6% were nonmedical, 0.03% were medical, 7.9% were for phimosis, and 10.5% had an unknown indication (Table 4). Among postneonatal circumcisions, 25.1% were nonmedical, 3.5% were medical, 66.3% were for phimosis, and 5.1% had an unknown indication. Most (70.3%) nonmedical postneonatal circumcisions were performed on infants younger than age 1 year. A substantial percentage of circumcisions for medical indications (38.7%) and phimosis (36.7%) also occurred before age 1 year.

The average payment for neonatal circumcision was $285, and a postneonatal circumcision was $1885. Among total payments by the health plans for circumcision in our study, the total of neonatal circumcision expenditures was $41 670 705 (68.7% of total circumcision expenditures), and postneonatal circumcision among males aged 29 days to 18 years expenditure was $18 953 675 (31.3% of total circumcision expenditures).

DISCUSSION

We found that most pediatric circumcisions were performed for neonates, but those performed for postneonates accounted for a substantial portion of all circumcision payments by health plans. Among postneonatal circumcisions, 25.1% were performed for nonmedical indications, which might represent missed opportunities for neonatal circumcision. We also found circumcision was rare among older boys who could make an informed decision and request the procedure.

Circumcision is associated with fewer complications and a longer duration of protection when performed in neonates compared with older boys or young men.[2] The procedure might be delayed for reasons such as parental choice, prematurity, medical problems, or adoption.[18]

TABLE 3 Multivariate Logistic Regression Model of Postneonatal (>28 Days) Circumcision of Males Aged 29 Days to 1 Year Who Were Not Circumcised During the Neonatal Period (N = 76 333), MarketScan 2010

Characteristics	Circumcisions, *N* (%)	Postneonatal Rate (% of Uncircumcised Neonates)	Adjusted Risk Ratio (95% CI)
Total	4673	6.1	
Maternal age, y			
15–19	33 (0.7)	5.1	0.78 (0.47–1.29)
20–29	1867 (40.0)	6.5	Reference
30–39	2513 (53.8)	5.9	0.90 (0.83–0.99)
≥40	260 (5.6)	8.0	1.25 (1.03–1.52)
Length of hospitalization, d			
0–1	353 (7.6)	4.6	0.83 (0.70–0.99)
2–5	3335 (71.4)	5.4	Reference
≥6	985 (21.1)	33.3	8.68 (7.64–9.86)
Region			
Northeast	608 (13.0)	4.5	Reference
North central	1148 (24.6)	6.6	1.51 (1.31–1.74)
South	2037 (43.6)	8.2	1.90 (1.67–2.17)
West	830 (17.8)	4.4	0.99 (0.85–1.15)
Urban/rural			
Urban	4126 (88.3)	6.1	Reference
Rural	503 (10.8)	7.3	1.23 (1.07–1.40)

Delaying circumcision past the neonatal period can increase the cost and risk of the procedure, and can decrease the time span that a boy is protected from UTIs and disorders of the foreskin during early childhood, and STIs and HIV once he becomes sexually active. Although some have suggested that that a boy should choose circumcision for himself as an older child or young man, rather than have his parents make the decision for him as a neonate,[27] pain, fear, cost, and misinformation discourage circumcision uptake by older boys and adults.[2,28,29] It can also be challenging to time the procedure to occur before sexual debut to achieve maximal protection from STIs.[2] For parents deciding whether to circumcise their unborn sons, health care providers can counsel them early in the pregnancy about the benefits and risks of neonatal circumcision compared with postneonatal circumcision. Providers can also foster continuing discussion, providing parents sufficient time to consider the health benefits of neonatal circumcision within the context of their own beliefs and preferences.[30]

TABLE 4 Indications for Neonatal (≤28 Days) and Postneonatal (>28 Days) Circumcisions Among Males Aged 0 to 18 Years, MarketScan 2010

Indication	Neonatal, *N* (%)	Postneonatal, *N* (%)
Total	146 213	10 034
Nonmedical	119 278 (81.6)	2519 (25.1)
Medical	46 (0.03)	352 (3.5)
Phimosis	11 601 (7.9)	6677 (66.4)
Unknown	15 288 (10.5)	503 (5.0)

In our multivariate analysis, longer infant hospital stays were associated with higher rates of postneonatal circumcision. One of the most common reasons for an extended hospital stay is prematurity, with many preterm infants remaining hospitalized for a period that exceeds the 28-day neonatal period. Extremely premature infants are unlikely to be circumcised as neonates because they typically are not medically stable or their urogenital system is immature, leading to a delayed procedure in most premature infants. Yet UTIs are most common in the first year of life,[6] and can occur in infants with medical problems who require a urinary catheter. In addition, a term infant with a longer hospital stay might have medical issues that prevent the performance of an elective procedure such as a neonatal circumcision. Health care teams might consider earlier circumcision for preterm or sick infants once they are medically stable, to provide an optimal window of protection from urinary infections.

We found an age distribution of circumcision that was similar to a previous study.[14] Our neonatal circumcision rate was higher than reported in previous studies, which only included inpatient circumcisions.[5,16,26] The inclusion of outpatient procedures likely contributed to our finding of a higher rate. Also, our sample included patients who were privately insured, and private insurance coverage has been associated with higher circumcision rates.[12,31] Similar to previous studies, we found a higher circumcision rate in rural rather than urban locations. We observed a higher circumcision rate in the western region of the United States than other studies, but similar to previous reports we found the rate was lowest in the West compared with other US geographic regions. We also found that a short maternal hospital stay was associated with a lower neonatal circumcision rate, which is comparable to findings in a previous study.[11] We are not aware of other national estimates of postneonatal circumcision rates through the first year of life. These data, along with other estimates of nonhospital and postdischarge circumcisions,[5] can increase our understanding of the frequency of circumcision procedures performed on US infants.

Our study has some limitations. It is possible we underestimated the number of postneonatal nonmedical circumcisions because we used administrative billing codes to estimate indications for the procedure. Providers might be more likely to submit ICD-9 codes for reimbursable procedures, resulting in nonreimbursable procedures such as nonmedical circumcision to be under reported.[19] We observed a large number of postneonatal circumcisions for phimosis, which is often

a nonmedical indication, and this could have also resulted in an underestimate of the number of nonmedical circumcisions.[18,20,24,32] Our expenditure estimates were based on the payment for the circumcision procedure itself, and did not include preoperative office visits, which would have increased the cost of postneonatal circumcision. Also, our estimates did not include costs of complications that would have been more likely with postneonatal circumcision. A more comprehensive cost analysis probably would have resulted in a larger cost difference between neonatal and postneonatal circumcision.[18,20,24,32] Finally, our findings cannot be generalized to populations that are not commercially insured.

CONCLUSIONS

In our study, we characterized neonatal and postneonatal circumcision, and our estimates include circumcisions performed both in inpatient and outpatient venues. We found that although postneonatal circumcisions accounted for a small percentage of circumcisions, the payment was substantially higher and these postneonatal procedures accounted for a large percentage of all payments for circumcisions. Among postneonatal circumcisions, we observed a large number of nonmedical indications, which might suggest that these procedures could have been performed while the child was a neonate. We also found that postneonatal circumcision was rare among older boys, which might suggest that protection for a young man and his partners from STIs and HIV at sexual debut is largely determined by his parents' decision whether to circumcise him earlier in life. Studies are needed to assess reasons for nonmedical postneonatal circumcision, to identify possible barriers to neonatal circumcision, and to inform interventions to decrease the percentage of elective circumcisions that occur in the postneonatal period.

REFERENCES

1. Introcaso CE, Xu F, Kilmarx PH, Zaidi A, Markowitz LE. Prevalence of circumcision among men and boys aged 14 to 59 years in the United States, National Health and Nutrition Examination Surveys 2005-2010. *Sex Transm Dis*. 2013;40(7):521–525
2. Morris BJ, Waskett JH, Banerjee J, et al. A 'snip' in time: what is the best age to circumcise? *BMC Pediatr*. 2012;12:20
3. Kaicher DC, Swan KG. A cut above: circumcision as an ancient status symbol. *Urology*. 2010;76(1):18–20
4. Xu B, Goldman H. Newborn circumcision in Victoria, Australia: reasons and parental attitudes. *ANZ J Surg*. 2008;78(11):1019–1022
5. Morris BJ, Bailis SA, Wiswell TE. Circumcision rates in the United States: rising or falling? What effect might the new affirmative pediatric policy statement have? *Mayo Clin Proc*. 2014;89(5):677–686
6. Morris BJ, Wiswell TE. Circumcision and lifetime risk of urinary tract infection: a systematic review and meta-analysis. *J Urol*. 2013;189(6):2118–2124
7. Siegfried N, Muller M, Deeks JJ, Volmink J. Male circumcision for prevention of heterosexual acquisition of HIV in men. *Cochrane Database Syst Rev*. 2009; (2):CD003362
8. Cherpes TL, Meyn LA, Krohn MA, Hillier SL. Risk factors for infection with herpes simplex virus type 2: role of smoking, douching, uncircumcised males, and vaginal flora. *Sex Transm Dis*. 2003;30(5):405–410
9. Warner L, Ghanem KG, Newman DR, Macaluso M, Sullivan PS, Erbelding EJ. Male circumcision and risk of HIV infection among heterosexual African American men attending Baltimore sexually transmitted disease clinics. *J Infect Dis*. 2009;199(1):59–65
10. Backes DM, Bleeker MC, Meijer CJ, et al Male circumcision is associated with a lower prevalence of human papillomavirus-associated penile lesions among Kenyan men. *Int J Cancer*. 2012;130(8):1888–1897
11. Leibowitz AA, Desmond K, Belin T. Determinants and policy implications of male circumcision in the United States. *Am J Public Health*. 2009;99(1):138–145
12. Clark SJ, Kilmarx PH, Kretsinger K. Coverage of newborn and adult male circumcision varies among public and private US payers despite health benefits. *Health Aff (Millwood)*. 2011;30(12):2355–2361
13. Kacker S, Frick KD, Gaydos CA, Tobian AA. Costs and effectiveness of neonatal male circumcision. *Arch Pediatr Adolesc Med*. 2012;166(10):910–918
14. El Bcheraoui C, Zhang X, Cooper CS, Rose CE, Kilmarx PH, Chen RT. Rates of adverse events associated with male circumcision in U.S. medical settings, 2001 to 2010. *JAMA Pediatr*. 2014;168(7):625–634
15. Schoen EJ. *Male Circumcision. Male Sexual Dysfunction Pathophysiology and Treatment*. New York, NY: Informa; 2007:95–107
16. Centers for Disease Control and Prevention (CDC). Trends in in-hospital newborn male circumcision—United States, 1999-2010. *MMWR Morb Mortal Wkly Rep*. 2011;60 (34):1167–1168
17. Jayanthi VR, Burns JE, Koff SA. Postneonatal circumcision with local anesthesia: a cost-effective alternative. *J Urol*. 1999;161 (4):1301–1303
18. Larsen GL, Williams SD. Postneonatal circumcision: population profile. *Pediatrics*. 1990; 85(5):808–812
19. Schoen EJ, Colby CJ, To TT. Cost analysis of neonatal circumcision in a large health maintenance organization. *J Urol*. 2006;175 (3 pt 1):1111–1115
20. Wiswell TE, Tencer HL, Welch CA, Chamberlain JL. Circumcision in children beyond the neonatal period. *Pediatrics*. 1993;92(6):791–793
21. MarketScan Commercial Claims Database. Ann Arbor, MI: Medstat Group; 2010–2011
22. US Census Bureau. Current population survey table creator. Available at: www.census.gov/cps/data/cpstablecreator.html. Published 2013. Accessed July 30, 2014
23. Hansen LC. S. MarketScan White Paper. In: Analytics TH, ed. *Health Research Data for the Real World: The MarketScan Databases*. Ann Arbor MI: Truven Health Analytics; 2012
24. Van Howe RS. Cost-effective treatment of phimosis. *Pediatrics*. 1998;102(4). Available at: www.pediatrics.org/cgi/content/full/102/4/e43
25. US Census Bureau. Current Population Survey (CPS). Table Creator. Washington, DC: US Census Bureau; 2013
26. Owings M, Uddin S, Williams S. Trends in circumcision for male newborns in US hospitals: 1979–2010. Health E-Stat. Available at: www.cdc.gov/nchs/data/hestat/circumcision_2013/circumcision_2013.htm. Published 2013. Accessed March 4, 2014

27. Frisch M, Aigrain Y, Barauskas V, et al. Cultural bias in the AAP's 2012 Technical Report and Policy Statement on male circumcision. *Pediatrics*. 2013;131(4):796–800
28. Morris BJ, Krieger JN. Does male circumcision affect sexual function, sensitivity, or satisfaction?—a systematic review. *J Sex Med*. 2013;10(11):2644–2657
29. Task Force on Circumcision. Cultural bias and circumcision: the AAP Task Force on circumcision responds. *Pediatrics*. 2013; 131(4):801–804
30. American Academy of Pediatrics Task Force on Circumcision. Male circumcision. *Pediatrics*. 2012;130(3). Available at: www.pediatrics.org/cgi/content/full/130/3/e756
31. Mansfield CJ, Hueston WJ, Rudy M. Neonatal circumcision: associated factors and length of hospital stay. *J Fam Pract*. 1995;41(4):370–376
32. Rickwood AM, Walker J. Is phimosis overdiagnosed in boys and are too many circumcisions performed in consequence? *Ann R Coll Surg Engl*. 1989;71(5):275–277

FUNDRAISER FARE: *For years, our children have participated in school-based fundraisers for various projects and activities. My wife would make brownies or cookies, I would make fudge, and the kids would sell the baked goods at school on the sidelines of an athletic event. The sales tables would be laden with sweets of all types, and we would always buy some for ourselves. As we thought the fundraisers were for a good cause, we really never considered if what we were doing was contributing to the obesity epidemic in children.*

As reported in The Wall Street Journal *(A-HED: August 1, 2014), the era of school-based fundraisers as we know it may end this fall. In 2010, Congress passed the Healthy, Hunger-Free Kids Act, which revamped nutrition standards for schools that participate in the federal school meals programs. The act goes into effect this fall and limits the amount of fat, sugar, and salt in food sold during the school day. Because the act applies to all foods sold, fundraisers are not exempt, so schools not compliant will face significant fines. The act does allow for "infrequent" events such as bake sales, and gives states the flexibility to determine the number of daytime fundraisers held each year that are exempt from the nutrition requirements.*

While some states have taken advantage of this (Tennessee will allow schools to sell food items not meeting the federal requirements up to 30 days each year) at least 32 states have not, and will fully comply with the federal rules. The food sold at fundraisers in these states will certainly be different. For example, as no more than 35% of calories in an item can come from total fat, cookies are out – but fruit cups would be appropriate. Some schools have simply done away with traditional bake sales and other food-centric fundraisers, replacing them with calorie-free events such as wrapping-paper sales. Times sure have changed. I guess I won't be making fudge to support my local public school system any longer.

Noted by WVR, MD

Circumcision of Privately Insured Males Aged 0 to 18 Years in the United States

Geoffrey D. Hart-Cooper, Guoyu Tao, Jeffrey A. Stock and Karen W. Hoover

Pediatrics 2014;134;950
DOI: 10.1542/peds.2014-1007 originally published online October 20, 2014;

PEDIATRICS®
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Circumcision of Privately Insured Males Aged 0 to 18 Years in the United States

Geoffrey D. Hart-Cooper, Guoyu Tao, Jeffrey A. Stock and Karen W. Hoover

Pediatrics 2014;134;950
DOI: 10.1542/peds.2014-1007 originally published online October 20, 2014;