

Neonatal Circumcision: When Is the Decision Made?

Gary Owen Bean, MD, and Claudia Egelhoff, MSPH
Fort Bragg and Chapel Hill, North Carolina

A self-administered questionnaire was completed by 277 new mothers to determine when the decision for neonatal circumcision is made. Seventy-eight percent of the women sampled were in favor of neonatal circumcision even before becoming pregnant. Over one half (56 percent) of the sample had decided before becoming pregnant that they would have their sons circumcised. Only 7 percent of the mothers made the decision after delivery. The circumcision status of the women's mates was a significant factor in making the decision for white women but not for black women. Sixty-one percent of all the women tried to learn more about circumcision before deciding. The most influential person in helping these women make the decision about circumcision was the husband.

Circumcision has been practiced for centuries in every part of the world, and its history as both a cultural and a religious rite is well documented.¹⁻⁸ The percentage of boys circumcised in different parts of the world varies markedly, however.⁹⁻¹⁶ Neonatal circumcision has been performed routinely in the United States since it gained medical credibility and acceptance in the 1940s. Even though this procedure has many potential complications, circumcision has been widely advocated

for prevention of carcinoma of the penis.^{3,11-20}

The lifetime risk for carcinoma of the penis in uncircumcised men may be as great as 1 in 600.²¹ Smegma accumulation, particularly in men with nonretractile foreskins, has been theorized to be the etiologic agent for this cancer. Smegma accumulation, retractability of the foreskin, and personal penile hygiene have been evaluated.^{7-22,23} Penile hygiene appears to be very important in the prevention of carcinoma of the penis, whether circumcised or not.^{2,24,25}

The merits of routine neonatal circumcision have been increasingly debated over the past 20 years.^{2-5,12-15,22-31} This debate led the American Academy of Pediatrics Ad Hoc Committee on Circumcision in 1975 to outline the advantages and disadvantages of neonatal circumcision and to

From the Department of Family Medicine, Womack Army Community Hospital, Fort Bragg, and the Department of Family Medicine, University of North Carolina, Chapel Hill, North Carolina. Requests for reprints should be addressed to Dr. Gary Owen Bean, Raleigh Family Physicians, Inc, 1109 Dresser Ct, Raleigh, NC 27609.

conclude that "there is no absolute medical indication for routine circumcision of the newborn."²⁴ Despite this statement, approximately 90 percent of all male infants born in the United States each year are circumcised.³²⁻³⁶ Education of the parents well in advance of delivery has been advocated as a way of decreasing the circumcision rate.^{24,29,33} Colletti³⁷ notes, however, that circumcision is a cultural norm and that almost all prospective parents reach a decision in favor of circumcision by the third trimester of pregnancy.

To evaluate this cultural norm, an analytical cross-sectional survey was undertaken to answer the following questions: Were maternal attitudes about circumcision formed prior to pregnancy? Was the actual parental decision regarding the need for circumcision made before, during, or after pregnancy? What were the reasons for the decision, and who made it?

Methods

A self-administered one-page questionnaire survey was mailed to all women who gave birth to a male infant at Womack Army Community Hospital (WACH), Fort Bragg, North Carolina, during the period July 1980 through December 1981. This study population was obtained by reviewing the records of all male infants born at WACH during this period.

The total number of charts reviewed for the mail survey was 774. Of these, 31 charts were excluded from the mailing (for medical contraindications for circumcision). Of the 743 surveys mailed, 238 were returned as being nondeliverable (moved without leaving a forwarding address, incorrect address, etc); of the 505 questionnaires delivered, 225 were completed and returned (44 percent completion rate).

To evaluate the reliability of the mailed survey, the same questionnaire was given to all women who were delivered of a male infant at WACH from January through April 1982 prior to their leaving the postpartum ward. Seventy-nine questionnaires were obtained from these women. The demographic data from this group validated the general applicability of opinions from those

women responding to the mailed survey.

Twenty-five of the women surveyed at WACH in 1982 received fact sheets on circumcision before their babies were delivered. These questionnaires were excluded from this analysis. A total of 277 women who gave birth to a male infant between July 1980 and April 1982 are reported on here.

Results

The 277 respondents proved to be fairly representative of the total study population of 584 women. There were slightly more white respondents than in the total study population, and the group was also somewhat older (Table 1).

An overwhelming majority of the respondents (87 percent) reported choosing to have their newborn son circumcised. "Health" and "cleanliness" were the most frequently mentioned reasons for circumcision. Among those who did not choose circumcision, the most frequently mentioned reasons were "it is too painful" or "not necessary."

Most women (78 percent) reported favoring circumcision before becoming pregnant. Only 5 percent were negative toward circumcision before pregnancy. Despite these positive attitudes, 61 percent of the women reported trying to learn more about circumcision before deciding for their son. When asked who most influenced their final decision, the husband was most frequently mentioned (58 percent), followed by family of origin (14 percent). Health professionals reportedly influenced only 10 percent of the respondents. Most women (81 percent) reported discussing circumcision with their spouses at least once or twice. The final decision was reported as being made by the couple in 62 percent of the cases, but 34 percent of the mothers made the final decision independently.

Most women (56 percent) reported deciding about circumcision before their pregnancy, but mothers who decided against circumcision were less likely to make their decision early. Only 33 percent of these mothers reported making their decision before pregnancy, and 45 percent made their decision in the last trimester of pregnancy or

	Study Population (n = 584) (%)	Respondents (n = 277) (%)
Race		
White	55	59
Black	34	33
Hispanic, Asian	10	8
		(Hispanic only)
Marital Status		
Married	89	90
Unmarried	11	9
Pregnancy Status		
First pregnancy	38	36
Second pregnancy	33	32
Third pregnancy	18	7
Fourth or later pregnancy	11	13
Age (yr)		
Range	14-44	15-41
Median	22	25

Decision Made	Circumcised (n = 242) %	Not Circumcised (n = 24) %
Before marriage	31	12
Before pregnancy	28	21
First trimester	8	4
Second trimester	10	8
Third trimester	16	33
After delivery	6	12
No response	1	8

after their son's birth (Table 2). Health professionals had more influence on those who decided against circumcision. In over one fourth of these cases (29 percent), the mother reported that a nurse or physician was "most influential" in the

decision compared with only 7 percent of the mothers who chose circumcision reporting such an influence. The husbands and family of origin were still most influential among both groups of mothers.

	Circumcised (n = 242) %	Did Not Circumcise (n = 24) %
Age (yr)		
18-21	14	25
22-25	37	38
26-29	29	16
30-33	10	8
Over 33	7	8
No data	3	—
Median age	26	23
Race		
Black	59	25
White	33	62
Hispanic	7	13
Education		
Grade 7-11	10	4
High school graduate	44	50
College	42	38
No data	4	8
Years Married		
1-2	30	58
3-4	20	12
5-6	17	4
Over 6	24	13
No data	4	13
Male Children		
1	65	71
2 or more	35	29

Analysis revealed some unexpected differences between the women who chose to circumcise their sons and those who did not. Those deciding against circumcision were younger, married fewer years, more likely to be white, and usually giving birth to their first son (Table 3). They did not differ in educational background from those who chose circumcision. Among the white mothers, who made up 59 percent of the respondents, the circumcision status of the husband showed a significant relationship with the decision for their son. Among black mothers, who represented 33 percent of the respondents, circumcision was chosen overwhelmingly despite the higher ratio (34 percent) of uncircumcised husbands. Hispanic re-

spondents formed too small a group to analyze in this fashion.

Discussion

Whether justified or not, routine neonatal circumcision has become culturally ingrained in American society. This study shows that most mothers favored circumcision before becoming pregnant, and the majority made the decision for circumcision before or shortly after becoming

pregnant. The husband was an influential part of the decision-making process and most likely supported circumcision, since most couples discussed the issue only once or twice. Improved health and cleanliness were the most frequently cited reasons for deciding in favor of circumcision, and women choosing to circumcise their sons felt they were truly doing something important for them. Religious reasons did not appear to be significant in the decision-making process.

Many authors recommend counseling the parents in the second and third trimesters of the pregnancy in an attempt to discourage circumcision.^{24,29,37,38} This study shows that health beliefs, the circumcision status of other men in the mother's family, decisions for previous sons, and other unknown social factors predispose the vast majority of women to favor circumcision prior to the second trimester of pregnancy.

Summary

Maternal attitudes about circumcision formed prior to becoming pregnant are a major factor in determining the circumcision status of the neonate. Most women make the circumcision decision before the second trimester; therefore, counseling parents in the second and third trimesters is likely to have only minimal effect in changing attitudes. If the goal is to decrease the circumcision rate or provide unbiased education to parents, major efforts should be directed at changing attitudes toward neonatal circumcision before pregnancy.

References

1. Lubchenco LO: Routine neonatal circumcision: A surgical anachronism. *Clin Obstet Gynecol* 23:1135, 1980
2. Burger R, Guthrie TH: Why circumcision? *Pediatrics* 54:362, 1974
3. Kaplan GW: Circumcision—An overview. *Curr Prob Pediatr* 7:3, 1977
4. Prucha ZS: Circumcision: Cutting out the routine cut. *Can Med Assoc J* 122:834, 1980
5. Zimmer PJ: Moderate ritualistic surgery. *Clin Pediatr* 16:503, 1978
6. Boczek S, Freed S: Penile carcinoma in circumcised males. *NY State J Med* 79:1903, 1979
7. Oster J: Further fate of the foreskin. *Arch Dis Child* 43:200, 1968
8. Williams C, Leek G: Circumcision—A reappraisal. *Br J Clin Pract* 34:97, 1980
9. Wirth JL: Statistics on circumcision in Canada and Australia. *Am J Obstet Gynecol* 130(2):236, 1978
10. Wirth JL: Current circumcision practices in Canada. *Pediatrics* 66:705, 1980
11. Annunziato D, Goldblum LM: Staphylococcal scalded skin syndrome: A complication of circumcision. *Am J Dis Child* 132:1187, 1978
12. Cleary TG, Kohl S: Overwhelming infection with group B beta-hemolytic streptococcus associated with circumcision. *Pediatrics* 64:301, 1979
13. Denton J: Circumcision complication. *Clin Pediatr* 17:285, 1978
14. Johnsonbaugh RE: Complications of a circumcision performed with a plastic disposable circumcision device: Long term follow-up. *Am J Dis Child* 133:438, 1979
15. Sussman SJ: Fournier's syndrome. *Am J Dis Child* 132:1189, 1978
16. Sterenberg N: Necrosis of the glans penis following neonatal circumcision. *Plast Reconstr Surg* 237, 1981
17. Gee WF, Ansell JS: Neonatal circumcision: A ten year overview with comparison of gomco clamps and the plastibell device. *Pediatrics* 58:824, 1976
18. Gunnar MR: The effects of circumcision on serum cortisol and behavior. *Psychoneuroendocrinology* 6:269, 1981
19. Rawlings DJ: The effects of circumcision on transcutaneous po₂ in term infants. *Am J Dis Child* 134:676, 1980
20. Brackbill Y, Schroder K: Circumcision, gender differences, and neonatal behavior: An update. *Dev Psychobiol* 13:607, 1980
21. Kochen M, McCurdy S: Circumcision and the risk of cancer of the penis. *Am J Dis Child* 134:484, 1980
22. Grogono EB: The case against neonatal circumcision. *Br Med J* 1:1163, 1979
23. Kalcev B: Circumcision and personal hygiene in school boys. *Med Officer*, September 1964, p 171
24. Thompson HC: Report of the ad hoc task force on circumcision. *Pediatrics* 56:610, 1975
25. Burkitt DP: Distribution of cancer in Africa. *Proc R Soc Med* 66:312, 1973
26. Carpenter GG, Hervada AR: More criticism of circumcision. *Pediatrics* 56:338, 1975
27. Demetrakopoulos GE: A different view of the facts. *Pediatrics* 56:339, 1975
28. Gellis SS: Circumcision. *Am J Dis Child* 132:1168, 1978
29. Gibbons MG: Why circumcise? *Pediatr Nurs* 5:9, 1978
30. Philip AGS: Urologist's views challenged. *Pediatrics* 56:338, 1975
31. Sorrells ML: Still more criticism. *Pediatrics* 56:339, 1975
32. Bennett HJ, Weisman M: Circumcisions: Knowledge isn't enough. *Pediatrics* 68:750, 1981
33. Herrera AJ: Routine neonatal circumcision. *Am J Dis Child* 133:1069, 1979
34. Lovell JE, Cox J: Maternal attitudes toward circumcision. *J Fam Pract* 9:811, 1979
35. Osborn LM: Hygienic care in uncircumcised infants. *Pediatrics* 67:365, 1981
36. Schwark TE: Do edicts have any effects on circumcision rate? *Pediatrics* 60:563, 1977
37. Colletti RB: In reply, letter. *Am J Dis Child* 133:1080, 1979
38. Gorske AL: In reply, letter. *Am J Dis Child* 134:527, 1980