



Assessment of Neonatal Circumcision Availability at Chicago-Area Hospitals

Ketan Jain-Poster, BS; Iliina Rosoklija, MPH; Mateo Zambrano Navia, BA; Max Maizels, MD; Jane L. Holl, MD, MPH; Matthew M. Davis, MD, MAPP; Emilie K. Johnson, MD, MPH

Introduction

Our pediatric urology and surgery groups based in Chicago, Illinois, have noted clinically that young boys frequently present for delayed elective outpatient circumcision, often requiring general anesthesia. Although epidemiological and survey data indicate that neonatal circumcision rates are partly associated with health care resource availability,^{1,2} little is known to date about barriers to neonatal circumcision from clinician and hospital system perspectives. A prior survey found that 18% of parents seeking delayed circumcision for their son reported that, although they preferred immediate postnatal circumcision, their Chicago-area birthing hospital did not offer neonatal circumcision (9 hospitals represented).³ The present study seeks to describe neonatal circumcision-related requirements and procedures of birthing hospitals in the Chicago area to better understand barriers to neonatal circumcision experienced by clinicians and hospital systems.

Author affiliations and article information are listed at the end of this article.

Methods

Publicly available data about each birthing hospital were combined with data from a brief, anonymous telephone survey conducted with a labor and delivery department representative at each hospital. Birthing hospitals (with at least 1 birth per year) within the Chicago area (Cook County, including the city of Chicago and adjacent suburbs) were identified on the Illinois Department of Public Health website.⁴ Characteristics including hospital type (government or nongovernment, not-for-profit status, and teaching status), location (city or suburbs), patient demographic characteristics (proportion publicly insured, race/ethnicity, and income by hospital zip code), and birth volume were collected.

Survey questions included whether neonatal circumcisions are performed at each hospital; whether they are performed for inpatients, outpatients, or both; and which specialty performs neonatal circumcisions. Representatives were asked whether insurance was accepted for neonatal circumcision or whether a separate cash fee was required. Descriptive statistics were calculated. Institutional review board determination from Ann & Robert H. Lurie Children's Hospital of Chicago was for an exemption due to publicly available and anonymous data collection. A waiver of informed consent was granted.

Results

In total, 44 birthing hospitals were identified (19 in the city [43%] and 25 in the suburbs [57%]; 38 not for profit [86%]; 11 teaching [25%]; median [interquartile range] births per year, 1413 [839.5-2224.5]) that serve patients from a wide range of socioeconomic levels and racial/ethnic groups (**Table 1**).

A representative responded from all 44 hospitals (100% response rate). All respondents reported offering neonatal circumcision (29 inpatient only [66%], 14 inpatient and outpatient [32%], and 1 outpatient only [2%]). Half reported accepting insurance for neonatal circumcision; the remainder were unsure whether insurance was accepted (vs requiring a cash fee). Obstetricians performed neonatal circumcision at 39 hospitals (89%) (**Table 2**).

Open Access. This is an open access article distributed under the terms of the CC-BY License.

Discussion

Birthing hospitals in the Chicago area serve patients from a range of socioeconomic levels and racial/ethnic backgrounds. In this study, all hospitals reported offering neonatal circumcision, although 18% of parents in a prior Chicago-area parent survey reported that their birthing hospital did not offer neonatal circumcision. The 5 hospitals most frequently represented in the prior survey³ had higher birth volumes (median, 2178 births/y), higher percentages of publicly insured patients (median, 78%), and higher percentages of black or African American patients (median, 26%) compared with all birthing hospitals in the present study.

The universally reported availability of circumcision contrasts with our patients' experiences and with other studies that suggest that neonatal circumcisions are not always available.⁵ Only half of hospitals in the present study could confirm acceptance of insurance for neonatal circumcision (vs requiring cash payment), despite the American Academy of Pediatrics' recommendation of providing coverage for all desired neonatal circumcisions.⁶ The present study's findings indicate that publicly

Table 1. Institutional Characteristics and Demographic Patterns of Patients at 44 Birthing Hospitals in the Chicago Area of Illinois

Characteristic	Data
Births/y, median (IQR), No.	1413 (839.5-2224.5)
Hospital location, No. (%)	
City	19 (43)
Suburb	25 (57)
Government hospital, No. (%)	
Yes	2 (5)
No	42 (95)
Teaching hospital, No. (%)	
Yes	11 (25)
No	33 (75)
Hospital for-profit status, No. (%)	
For profit	6 (14)
Not for profit	38 (86)
Publicly insured, median (IQR), %	66 (52-78)
Household income by hospital zip code, median (IQR), \$	65 294 (41 110-84 556)
Racial/ethnic distribution by hospital zip code, median (IQR), %	
White	43.2 (17.3-75.5)
Black or African American	9.8 (3.1-56.7)
Asian	4.2 (0.1-7.1)
Hispanic or Latino	12 (6.2-24.4)
Other or >1 race	1.6 (0.1-2.2)

Abbreviation: IQR, interquartile range.

Table 2. Specialties Performing Neonatal Circumcision in 44 Hospitals in the Chicago Area of Illinois

Specialty	No. (%) ^a
Obstetrics only	32 (73)
Obstetrics or family medicine	7 (16)
Urology	2 (5)
Other ^b	3 (7)

^a Percentages have been rounded and do not equal 100.

^b Includes family medicine or pediatrics (n = 1), pediatric surgery (n = 1), and general surgery (n = 1).

funded neonatal circumcisions may not be adequately incentivized, providing a target for future research and health policy initiatives.

This study is limited by surveying only 1 representative from each hospital, who may have had limited knowledge of institutional circumcision practices and policies. Also, reasons for the discrepancy between a prior parent survey and reported universal neonatal circumcision availability are unclear. The present study data may guide purposeful sampling of clinicians and administrators for future in-depth interviews, which can address these limitations. Interviews should seek to elucidate institutional best practices for, and barriers to, providing neonatal circumcision for all families who desire the procedure.

ARTICLE INFORMATION

Accepted for Publication: January 30, 2020.

Published: April 8, 2020. doi:[10.1001/jamanetworkopen.2020.2306](https://doi.org/10.1001/jamanetworkopen.2020.2306)

Open Access: This is an open access article distributed under the terms of the [CC-BY License](https://creativecommons.org/licenses/by/4.0/). © 2020 Jain-Poster K et al. *JAMA Network Open*.

Corresponding Author: Emilie K. Johnson, MD, MPH, Ann & Robert H. Lurie Children's Hospital of Chicago, Division of Urology, 225 E Chicago Ave, Box 24, Chicago, IL 60611-2605 (ekjohnson@luriechildrens.org).

Author Affiliations: Northwestern University Feinberg School of Medicine, Chicago, Illinois (Jain-Poster, Zambrano Navia); Division of Urology, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, Illinois (Rosoklija, Maizels, Johnson); Department of Urology, Northwestern University Feinberg School of Medicine, Chicago, Illinois (Maizels, Johnson); Department of Surgery, Northwestern University Feinberg School of Medicine, Chicago, Illinois (Holl); Biological Sciences Division, University of Chicago, Chicago, Illinois (Holl); Division of Academic General Pediatrics and Primary Care, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, Illinois (Davis); Department of Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, Illinois (Davis).

Author Contributions: Mr Jain-Poster and Dr Johnson had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Concept and design: Jain-Poster, Rosoklija, Holl, Davis, Johnson.

Acquisition, analysis, or interpretation of data: Jain-Poster, Rosoklija, Zambrano Navia, Maizels, Johnson.

Drafting of the manuscript: Jain-Poster, Holl, Johnson.

Critical revision of the manuscript for important intellectual content: Jain-Poster, Rosoklija, Zambrano Navia, Maizels, Holl, Davis.

Statistical analysis: Jain-Poster, Rosoklija, Johnson.

Obtained funding: Johnson.

Administrative, technical, or material support: Jain-Poster, Davis.

Supervision: Rosoklija, Maizels, Holl, Davis, Johnson.

Conflict of Interest Disclosures: Dr Johnson reported receiving grants from Urology Care Foundation during the conduct of the study. No other disclosures were reported.

Funding/Support: This work was funded by the 2019-2021 American Urological Association Societies for Pediatric Urology Sushil Lacy, MD Research Scholar Award. The grant provided salary support for Dr Johnson.

Role of the Funder/Sponsor: The granting agency had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

REFERENCES

1. 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. doi:[10.2105/AJPH.2008.134403](https://doi.org/10.2105/AJPH.2008.134403)
2. Otto R, Evans G, Boniquit C, Peppas D, Leslie J. Why desired newborn circumcisions are not performed: a survey. *Urology*. 2016;97:188-193. doi:[10.1016/j.urology.2016.06.054](https://doi.org/10.1016/j.urology.2016.06.054)
3. Jacobson DL, D'Oro A, Abdullah F, et al. Reasons for delay of neonatal circumcision. Published 2019. Accessed November 6, 2019. <https://spuonline.org/abstracts/2019/P25.cgi>

4. Illinois Department of Public Health. Illinois Hospital Report Card. Accessed May 20, 2019. <http://www.healthcarereportcard.illinois.gov/>
5. Gutwein LG, Alvarez JF, Gutwein JL, Kays DW, Islam S. Allocation of healthcare dollars: analysis of nonneonatal circumcisions in Florida. *Am Surg*. 2013;79(9):865-869.
6. American Academy of Pediatrics Task Force on Circumcision. Male circumcision. *Pediatrics*. 2012;130(3):e756-e785. doi:10.1542/peds.2012-1990