8 common questions about newborn circumcision

As the medical benefits of male circumcision become more widely known, it is important to dispel the myths and describe the evidence surrounding this traditional surgical practice

Henry Michael Lerner, MD

In the United States, circumcision is the fourth most common surgical procedure—behind cataract removal, cesarean delivery, and joint replacement.[1] This operation, which dates to ancient times, is chosen for medical, personal, or religious reasons. It is performed on 77% of males born in the United States and on 42% of those born elsewhere who are living in this country.[2] Whether it is performed depends not only on the parents' race, ethnic background, and religion but also on region: US circumcision rates range from 74% in the Midwest to 30% in the West, and in between are the Northeast (67%) and the South (61%).[3]

Circumcision is not without controversy. Some claim that it is unnecessary cosmetic surgery, that it is genital mutilation, that the patient cannot choose it or object to it, or that it decreases sexual satisfaction.

In this article, I review 8 common questions about circumcision and provide data-based answers to them.

Dr. Lerner is Assistant Clinical Professor, Department of Obstetrics and Gynecology, Harvard Medical School, Boston, Massachusetts.

The author reports no financial relationships relevant to this article.

1. Should a newborn be circumcised?

For many years, the medical benefits of circumcision were scientifically ambiguous. With no clear answers, some thought that parents should base their decision for or against circumcision not on any potential medical benefit but rather on their family or religious tradition, or on a social standard, that is, what the majority of families in their community do.

Over the past 20 years, a growing body of evidence has demonstrated real medical benefits of circumcision. In 2012, the American Academy of Pediatrics (AAP), which previously had been neutral on the subject, issued a task force report concluding that the health benefits of circumcision outweigh its risks and justify access to the procedure.[3,4] However, the report stopped short of recommending circumcision.

Opponents have expressed several concerns about circumcision. First, they say, it is painful and unnecessary, and performing it when life has just begun takes the decision away from the adult-to-be, who may want to be uncircumcised as an adult but will have no recourse. Second, they say circumcision will diminish the adult's sexual pleasure. However, there is no proof this occurs, and it is unclear how the claim could be adequately verified.[5]

CONTINUED ON PAGE 28

IN THIS ARTICLE

CONTINUED FROM PAGE 27

Health benefits of circumcision[3]

- Prevention of phimosis and balanoposthitis (inflammation of glans and foreskin), penile retraction disorders, and penile cancer.
- Fewer infant urinary tract infections.
- Decreased spread of human papillomavirus–related disease, including cervical cancer and its precursors, to sexual partners.
- Lower risk of acquiring, harboring, and spreading human immunodeficiency virus infection, herpes virus infection, and other sexually transmitted diseases.
- Easier genital hygiene.
- No need for circumcision later in life, when the procedure is more involved.

FAST TRACK

Epinephrine should never be used with local analgesia for penile infiltration

2. What is the best analgesia for circumcision?

Although in decades past circumcision was often performed without any analgesia, in the United States analgesia is now standard of care. The AAP Task Force on Circumcision formalized this standard in a 2012 policy statement.[4] For newborn circumcision, analgesia can be given in the form of analgesic cream, penile ring block, or dorsal nerve block.

Analgesic EMLA cream (a mixture of local anesthetics such as lidocaine 2.5%/prilocaine 2.5%) is easy to use but is minimally effective in relieving circumcision pain,[6] although some investigators have reported it is efficacious compared with placebo.[7] When used, the analgesic cream is applied 30 to 60 minutes before circumcision.

Both penile ring block and dorsal nerve block with 1% lidocaine are easy to administer and are very effective.[8,9] They are best used with buffered lidocaine, which partially relieves the burning that occurs with injection. With both methods, the smaller the needle used (preferably 30 gauge), the better.

These 2 block methods have different injection sites. For the ring block, small amounts of lidocaine (1.0 to 1.5 mL) are given in a series of injections around the entire circumference of the base of the penis. The dorsal block targets the 2 dorsal nerves located at 10 o'clock and 2 o'clock at the base of the penis. Epinephrine, given its vasoconstrictive properties and the potential for necrosis, should never be used with local analgesia for penile infiltration.

Analgesia can be supplemented with comfort measures, such as a pacifier, sugar water, gentle rubbing on the forehead, and soothing speech.[10]

3. What conditions are required for safe circumcision?

As circumcision is not medically required and need not occur in the days immediately after birth, it should be performed only when conditions are optimal:

- A pediatrician or other practitioner must first examine the newborn.
- The newborn must be full-term, healthy, and stable.
  - —The best time to circumcise a baby born prematurely is right before discharge from the intensive care nursery.
- The penis must be of normal size and without anatomical defect—no micropenis, hypospadias, or penoscrotal webbing.
- The lower abdominal fat pad must not be so large that it will cause the shaft's skin to cover the exposed penile head.
- If there is a family history of a bleeding disorder, the newborn must be evaluated for the disorder before the circumcision.
- The newborn must have received his vitamin K shot.

4. What is the best circumcision method?

Circumcision can be performed with the Gomco circumcision clamp, the Mogen circumcision clamp, or the PlastiBell circumcision device. Each device works well, provides excellent results, and has its pluses and minuses. Practitioners should use the device with which they are most familiar and comfortable, which likely will be the device they used in training.

In the United States, the Gomco clamp is perhaps the most commonly used device. It provides good cosmetic results, and its metal "bell" protects the entire head of the penis. Of the 3 methods, however, it is the most difficult—

the partially cut foreskin must be threaded between the bell and the clamp frame before the clamp is tightened. In many cases, too, there is bleeding at the penile frenulum.

The Mogen clamp, another commonly used device, also is used in traditional Jewish circumcisions. Of the 3 methods, it is the quickest, produces the best hemostasis, and is associated with the least discomfort.[10] To those unfamiliar with the method, there may seem to be a potential for amputation of the head of the penis, but actually there virtually is no risk, as an indentation on the penile side of the clamp protects the penile head.

The PlastiBell device is very easy to use but must stay on until the foreskin becomes necrotic and the bell and foreskin fall off on their own—a process that takes 7 to 10 days. Many parents dislike this method because its final result is not immediate and they have to contend with a medical implement during their newborn's first week home.

Electrocautery is not recommended. Some clinicians, especially urologists, use electrocautery as the cutting mechanism for circumcision. A review of the literature, however, reveals that electrocautery has not been studied head-to-head against traditional techniques, and that various significant complications—transected penile head, severe burns, meatal stenosis—have been reported.[11,12] It is certainly not a mainstream procedure for neonatal circumcision.

Evaluate penile anatomy for abnormalities

Before performing any circumcision, the head of the penis should be examined to rule out hypospadias or other penile abnormalities. This is because the foreskin is utilized in certain penile repair procedures. The pediatrician should perform an initial examination of the penis at the formal newborn physical within 24 hours of delivery. The clinician performing the circumcision should re-examine the penis just before the procedure is begun—by pushing back the foreskin as much as possible—as well as during the procedure, once the foreskin is lifted off the penile head but before the foreskin is excised.

Take steps to ensure the best circumcision outcome

- Just before the procedure, have a face-to-face discussion with the parents. Confirm that they want the circumcision done, explain exactly what it entails, and let them know they will receive complete aftercare instructions.
- Make sure one of the parents signs the consent form.
- Circumcise the right baby! Check the identification bracelet and confirm that the newborn's hospital and chart numbers match.
- Prevent excessive hip movement by securing the baby's legs. The usual solution is a specially designed plastic restraint board with Velcro straps for the legs.
- Examine the infant's penile anatomy prior to the procedure to make certain it is normal.
- For pain relief, administer enough analgesia, as either dorsal nerve block or penile ring block (the best methods). Before injection, draw the plunger of the syringe back to make certain that the needle is not in a blood vessel.
- During the procedure, make sure the entire membranous layer of foreskin covering the head of the penis is separated from the glans.
- Watch the penis for several minutes after the circumcision to make sure there is no bleeding.

5. When is the best time to perform a circumcision?

The medical literature provides no firm answer to this question. The younger the baby, the easier it is to perform a circumcision as a simple procedure with local anesthesia. The older the baby, the larger the penis and the more aware the baby will be of his surroundings. Both these factors will make the procedure more difficult.

Most clinicians would be reluctant to perform a circumcision in the office or clinic after the baby is 6 to 8 weeks old. If a family desires their son to be circumcised after that time—or a medical condition precludes earlier circumcision—the procedure is best performed by a pediatric urologist in the operating room.

6. What are the potential complications of circumcision?

The rate of circumcision complications is very low at 0.2%.[13] That being said, the 3 most common types of complications are

postoperative bleeding, infection, and damage to the penis.

Far and away the most common complication is postoperative **bleeding**, usually at the frenulum of the head of the penis (the 6 o'clock position). In most cases, the bleeding is light to moderate. It is controlled with direct pressure applied for several minutes, the use of processed gelatin (Gelfoam) or cellulose (Surgicel), sparing use of silver nitrate, or placement of a polyglycolic acid (Vicryl) 5-0 suture.

Infection, an unusual occurrence, is seen within 24 to 72 hours after circumcision. It is marked by swelling, redness, and a foul-smelling mucus discharge. This discharge must be differentiated from dried fibrin, which is commonly seen on the head of the penis in the days after circumcision but has no odor or association with erythema, fever, or infant fussiness. True infection should be treated, in collaboration with the child's pediatrician, with a staphylococcal-sensitive penicillin (such as dicloxacillin).

More serious is **damage to the penis**, which ranges from accidental dilation of the meatus to partial amputation of the penile glans. Any such injury should immediately prompt a consultation with a pediatric urologist.

More of a nuisance than a complication is the **sliding of the penile shaft's skin** up and over the glans. This is a relatively frequent occurrence after normal, successful circumcisions. Parents of an affected newborn should be instructed to gently slide the skin back until the head of the penis is completely exposed again. After several days, the skin will adhere to its proper position on the shaft.

FAST TRACK

Potential complications include postoperative bleeding, infection, penile damage, and sliding of the penile shaft's skin up and over the glans

7. What is a Jewish ritual circumcision?

For their newborn's circumcision, Jewish parents may choose a bris ceremony, formally called a brit milah, in fulfillment of religious tradition. The ceremony involves a brief religious service, circumcision with the traditional Mogen clamp, a special blessing, and an official religious naming rite. The bris traditionally is performed by a mohel, a rabbi or other religious official trained in circumcision. Many parents have the bris done by a mohel who is a medical doctor. In the United States, the availability of both types of mohels varies.

8. Who should perform circumcisions—obstetricians or pediatricians?

The answer to this question depends on where you practice. In some communities or hospitals, the obstetrician performs newborn circumcision, while in other places the pediatrician does. In addition, depending on local circumstances or the specific population involved, circumcisions may be performed by a pediatric urologist, nurse practitioner, or even out of hospital by a trained religiously affiliated practitioner.

Obstetricians began doing circumcisions for 2 reasons. First, obstetricians are surgically trained whereas pediatricians are not. It was therefore thought to be more appropriate for obstetricians to do this minor surgical procedure. Second, circumcisions used to be done right in the delivery room shortly after delivery. It was thought that the crying induced by performing the circumcision helped clear the baby's lungs and invigorated sluggish babies. Now, however, in-hospital circumcisions are usually done in the days following delivery, after the baby has had the opportunity to undergo his first physical examination to make sure that all is well and that the penile anatomy is normal.

Clinician experience, proper protocol contribute to a safe procedure

In the United States, a large percentage of male infants are circumcised. Although circumcision has known medical benefits, the procedure generally is performed for family, religious, or cultural reasons. Circumcision is a safe and straightforward procedure but has its risks and potential complications. As with most surgeries, the best outcomes are achieved by practitioners who are well

trained, who perform the procedure under supervision until their experience is sufficient, and who follow correct protocol during the entire operation. ●

References

1. Dallas ME. The 10 most common surgeries in the US. Healthgrades website. https://www.healthgrades.com/explore/the-10-most-common-surgeries-in-the-us. Reviewed August 15, 2017. Accessed October 2, 2017.
2. Laumann EO, Masi CM, Zuckerman EW. Circumcision in the United States: prevalence, prophylactic effects, and sexual practice. JAMA. 1997;277(13):1052–1057.
3. American Academy of Pediatrics Task Force on Circumcision. Male circumcision. Pediatrics. 2012;130(3):e756–e785.
4. American Academy of Pediatrics Task Force on Circumcision. Circumcision policy statement. Pediatrics. 2012;130(3):585–586.
5. Morris BJ, Krieger JN. Does male circumcision affect sexual function, sensitivity, or satisfaction? A systematic review. J Sex Med. 2013;10(11):2644–2657.
6. Howard FM, Howard CR, Fortune K, Generelli P, Zolnoun D, tenHoopen C. A randomized, placebo-controlled comparison of EMLA and dorsal penile nerve block for pain relief during neonatal circumcision. Prim Care Update Ob Gyns. 1998;5(4):196.
7. Taddio A, Stevens B, Craig K, et al. Efficacy and safety of lidocaine-prilocaine cream for pain during circumcision. N Engl J Med. 1997;336(17):1197–1201.
8. Lander J, Brady-Fryer B, Metcalfe JB, Nazarali S, Muttitt S. Comparison of ring block, dorsal penile nerve block, and topical anesthesia for neonatal circumcision: a randomized controlled trial. JAMA. 1997;278(24):2157–2162.
9. Hardwick-Smith S, Mastrobattista JM, Wallace PA, Ritchey ML. Ring block for neonatal circumcision. Obstet Gynecol. 1998;91(6):930–934.
10. Kaufman GE, Cimo S, Miller LW, Blass EM. An evaluation of the effects of sucrose on neonatal pain with 2 commonly used circumcision methods. Am J Obstet Gynecol. 2002;186(3):564–568.
11. Tucker SC, Cerqueiro J, Sterne GD, Bracka A. Circumcision: a refined technique and 5 year review. Ann R Coll Surg Engl. 2001;83(2):121–125.
12. Fraser ID, Tjoe J. Circumcision using bipolar scissors can be a safe and simple operation. Ann R Coll Surg Engl. 2000;82(3):190–191.
13. Wiswell TE, Geschke DW. Risks from circumcision during the first month of life compared with those for uncircumcised boys. Pediatrics. 1989;83(6):1011–1015.