
Obstetrics Guidelines

SUBJECT: NEWBORN MALE CIRCUMCISION

I. Overview

Routine newborn male circumcision is a controversial issue. Circumcision is one of the oldest surgical operations, dating back to 2400 BC. Circumcision is the most common surgical procedure performed on children, with over one million done per year in the US. The percentage of male infants circumcised varies by geographic location, by religious affiliation, and by socioeconomic classification, with current estimates of 60-70% in the US. Benefits of the procedure include:

- A. Lower risks of UTI (studies examining the association between UTI and circumcision show 1) a relative risk estimate: 7-14 of 1000 uncircumcised male infants will develop a UTI in the first year of life compared with 1-2 of 1000 circumcised male infants; 2) absolute risk estimate: uncircumcised male has a 1 in 100 risk of developing a UTI in the first year of life compared with a risk of 1 in 1000 risk for a circumcised male)
- B. Lower risks of penile cancer (annual penile cancer rate is estimated at 1 per 100,000 males with a risk of three fold higher in uncircumcised male)
- C. Lower rates of balanitis, phimosis, paraphimosis
- D. Possibly lower rate of STD's: evidence regarding relationship of STD and circumcision is complex and conflicting with behavioral factors being the more important risk factor in developing HIV infection
- E. Lower rates of penile acquisition of human papilloma virus (HPV) and reduction of prevalence of cervical cancer in female partners of circumcised men.

Risks of the procedure (0.2% estimate) include:

- A. Hemorrhage
- B. Infection
- C. Urethral trauma
- D. Poor cosmetic result
- E. Death.

The American Academy of Pediatrics, the American College of Obstetrics and Gynecology, and the American Academy of Family Physicians do not recommend routine newborn male circumcision. The American Academy of Pediatrics concluded:

“Existing scientific evidence demonstrates potential medical benefits of neonatal male circumcision; however, these data are not sufficient to recommend routine neonatal circumcision. Parents should determine what is in the best interest of the child. To make an informed choice, parents should be given accurate and unbiased information and be provided with the opportunity to discuss this decision.

In weight the risks/benefits it must be kept in mind that while the surgical complication rate is small (0.2%), the nature of the intervention involves surgery to remove a natural part of

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the body and alters its appearance forever. Decision analysis⁷ of the value of circumcision weighed against its risks has shown that:

.NNT or numbers needed to treat:

- 100 children need to be circumcised to prevent 1 UTI;
- 909 children needed to be circumcised to prevent 1 penile cancer

The aggregated NNH (numbers needed to harm) is 476:

That is, some form of complication occurs in 1 out of every 476 children who are circumcised.

II. Terms

Phimosis: Stenosis of the preputial ring with inability to retract a fully differentiated foreskin, a normal condition in infants.

Incidence of Retractable Foreskin:

- Newborn 4%
- 6 months 15%
- 1 year 50%
- 3 years 80 % to 90%

Paraphimosis: Retention of the preputial ring proximal to the coronal sulcus

Balanitis: Inflammation of the glans

Posthitis: Inflammation of the prepuce

Balanoposthitis: Balanitis & Posthitis

Meatitis: Inflammation of the external urethral meatus

Hypospadias: Ventral displacement of the urethral opening (can vary greatly in severity)

III. Informed Consent

Studies have shown that most patients choose circumcision based on social factors, rather than medical factors. This does not obviate the need for informed consent, but makes it even more critical that parents/guardians clearly understand the risks and potential benefits of this surgical procedure. This decision-making process should be documented in the prenatal record and be present in the mother's chart. Patients who desire circumcision and for whom this information is lacking should have a comprehensive discussion of the procedure. Any uncertainty should prompt delaying the procedure.

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1V. Patient Preparation

A. Identification process is done prior to the procedure. Verify the infants name and date of birth on the baby's ID band.

B The infant's care provider should document that the infant is medically stable before being circumcised. Any illness is a contraindication to circumcision.

C The infant should have voided once to insure normal function of the urinary tract.

D The infant should not have eaten for one hour prior to the procedure. Sucrose dipped pacifier may be given during the procedure to calm the infant.

E Any abnormality of the GU tract is a contraindication to circumcision. This includes but is not limited to hypospadias, epispadias, megalourethra, and imperforate anus. If an anomaly is encountered during the circumcision, the procedure should be terminated immediately, and appropriate consultation obtained before proceeding.

V Pain Management Circumcision Anesthesia

A. Pain:

The pathways for pain as well as the cortical and subcortical centers are developed by the third trimester. Responses to the pain of circumcision are well established and significantly diminish within 24 hours after the surgery. Analgesia during circumcision is safe and effective in reducing procedural pain associated with circumcision and is recommended by the American Academy of Pediatrics.

B. Potential Benefits

- Less crying.
- Decreased irritability and sleep disruption for up to 24 hours.
- Less cardiorespiratory stress (heart rate and PO₂ stay closer to normal).
- Less overall infant stress (decreased cortisol response).
- Less parental anxiety or guilt over the procedure.

C. Types of anesthesia /Pain management

1. Topical anesthesia: Xylocaine 1%
2. Dorsal penile nerve block (DPNB)
3. General anesthesia is recommended for patient >3 months

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4. EMLA Cream: apply 60 minutes prior to procedure; rare complication of methemoglobinemia
5. Sucrose dipped Pacifier
6. Swaddling or comfortable, padded and physiologic restraint
7. Use of Acetaminophen pre procedure and up to 24 hours post procedure.

D. DNPB

1. Procedure for DPNB:
 - a. Prep skin
 - b. 0.8 ml of 1% Lidocaine (0.4ml each side) without EPI in tuberculin syringe with 27 or 30- gauge needle).
 - c. Identify symphysis pubis and corpora cavernosa at the penile root.
 - d. Stabilize the penis, position needle at 10 o'clock and 2 o'clock.
 - e. Place needle 0.5 to 1cm distal to the point where the penile root passes under the pubic arch (a depth of 2 to 5 mm usually)
 - f. Check the position and aspirate to ensure against intravascular injection.
 - g. Slowly place 0.4ml of lidocaine at the target site on each side.
 - h. Allow 5 minutes for the block to take effect.
2. Remember:
 - a. Use only Lidocaine **without** epinephrine. Injection of epinephrine will cause necrosis and sloughing of the penis.
 - b. Aspirate before injecting. Even with proper positioning the dorsal penile blood vessels or corpus are easily penetrated.

3. Complications of DPNB

Overall Complications Are Very Minor:

- Ecchymosis or hematoma at injection site.
- Local skin necrosis and transient penile ischemia.
- Infection at injection site.
- Bleeding at injection site.

VII. Procedures

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Available evidence suggests that Plastibell, Gomco, and Mogan clamp all give equally good results when performed properly.

A. Plastic Cone “Plastibell”

1. Advantages:
 - Glans protected from injury if not too tight
 - Relatively easy
 - No special post-operative care
2. Disadvantages:
 - Clumsy
 - Must wait for the bell to fall off
3. Common sources of errors:
 - Failure to free all adhesions
 - Too extensive of a dorsal slit
 - Improper fit of cone to glans
 - Excessive pressure on the glans; too much skin or too small clamp
 - Failure to achieve a fixed strangulation knot in ligature
 - Failure to explain post-circumcision appearance to parents
4. Procedure:
 - a. Grasp the rim of the prepuce with clamps at the 3 and 9 o'clock positions.
 - b. Separate the adherent prepuce from the glans beyond the corona, avoid the frenulum.
 - c. Clamp for a few seconds and cut a dorsal midline slit to within 5mm of the corona being careful not to injure the urethra with the instruments.
 - d. Expose the entire glans penis and remove any remaining adhesions.
 - e. Choose Plastibell large enough to easily slide over glans, (Comes in 5 sizes from 1.0 to 1.5cm diameter).
 - f. Pull foreskin over bell until base of dorsal slit is beyond groove and hold in place with cross - clamp.
 - g. Tie string around bell in groove. Before tightening check to insure that:
 1. Foreskin is in place symmetrically over bell.
 2. String is proximal to base of dorsal slit.
 3. String is in bell's groove and will not strangulate shaft or glans when tightened.
 - h. Trim excess foreskin, snap off bell handle.

B. Gomco clamp

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1. Advantages:
 - Glans protected from injury
 2. Disadvantages:
 - Clumsy
 - Technically difficult
 3. Common sources or errors:
 - Failure to free all adhesions
 - Too extensive of a dorsal slit
 - Improper fit of cone to glans
 - Failure to achieve proper placement of the prepuce in the clamp
 - Failure to trim the prepuce smoothly
 - Removal of excessive skin
 - Failure to check equipment
 - Excessive pressure on the ventral aspect
 4. Procedure:
 - a. Grasp the rim of the prepuce with clamps at the 3 and 9 o'clock positions.
 - b. Separate the adherent prepuce from the glans beyond the corona, avoid the frenulum.
 - c. Clamp for a few seconds and cut a dorsal midline slit to within 5mm of the corona and be careful not to injure the urethra with your instruments.
 - d. Expose the entire glans penis and remove any remaining adhesions.
 - e. Choose a cone of adequate size but not too large.
 - f. Pull the edges of the prepuce up over the bell and position the prepuce to the proper position.
 - g. Place the top plate over the bell and position the prepuce to the proper position.
 - h. Hook the top plate in position and bolt with nut. Leave fastened for 5 minutes.
 - i. Cut the redundant tissue away smoothly.
 - j. Apply petroleum jelly soaked gauze.
- C. Mogan clamp
Used commonly in religious circumcisions, it is a guillotine-style device which clamps the foreskin distal to the glans for excision.
- D. Free-hand circumcision techniques have also been described.

VIII. Complications: Most common complications of circumcision (all procedures) in order of occurrence:

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1. Bleeding:
Management:
 - a. Local Pressure
 - b. Gelfoam
 - c. Adrenaline soaked (aqueous 1:1000) gauze application
 - d. Silver nitrate stick
 - e. Topical application of thrombin
 - f. Suture 5 - 0 chromic
2. Infection
3. Circumcision of hypospadias
4. Dehiscence (rare with Plastibell)
5. Injury to glans (rare with Gomco)
6. Excessive skin removed (rare with Plastibell)
7. Plastibell ring too tight (never with Gomco)

IX. Post-Operative Care

- A. Observe the circumcision for bleeding 15-30 minutes after the procedure, then 1 hour after the initial inspection.
- A. Inspect the circumcision with each diaper change and document condition of circumcision every 8 hrs.
- B. Notify the physician who performed the procedure if bleeding still continues after nursing intervention. If bleeding is severe or prolonged, inform the infant's physician.
- C. Monitor the infant's voiding. If the infant has not voided in 8-12 hrs. notify the physician who performed the circumcision.
- D. Monitor for infection. A yellow/ green discharge or foul odor should be reported to the infant's primary physician. A yellow/ white thin crust over the glans of the penis is part of the normal healing process.
- E. The infant may be discharged after four inspections (minimum 2 hrs.) are done if there is no bleeding
- F. For routine uncomplicated circumcision, voiding is not required in order to release/discharge the infant; if any complications occur, voiding should be observed prior to release/discharge.
- G. Following the procedure, the parent/guardian is instructed in wound care and signs of infection and excessive bleeding.

Care of the Circumcision (without Plastibell)

- A. With every diaper change, Vaseline may be applied directly to the glans or to a piece of gauze over the glans or to the Vaseline strip if used.
- B. If Vaseline strip is applied when the newborn is circumcised, the strip should be removed at 24 hrs. if it has not fallen off. Warm water may be used to facilitate removal of the Vaseline strip.

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- C. If remaining of the foreskin slips over the glans, it should be retracted with each diaper change to prevent the skin from adhering to the glans.
- D. The penis may be cleansed with warm water.

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Care of the Circumcision with Plastibell

- A. Do not apply Vaseline. This may cause the plastic ring to fall off before there is sufficient healing. The ring should fall off in 5-10 days.
- B. No special dressing is needed. The baby may be bathed and diapered as normal.
- C. A dark brown or black ring encircling the plastic ring and mild swelling is normal.

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