INTRODUCTION — Circumcision (Latin circumcido, to cut around) is an elective surgical procedure in which the prepuce or foreskin (skin covering the glans penis) is removed. The three major techniques for performing neonatal circumcision are use of the Gomco clamp, Hollister Plastibell, or Mogen clamp. These techniques will be reviewed here. A detailed discussion of the risks and benefits of neonatal circumcision can be found separately. (See "Neonatal circumcision: Risks and benefits").

NORMAL DEVELOPMENT AND ANATOMY — The penis consists of a proximal root, middle body (corpus or shaft), and distal head (glands). The prominent circumferential rim where the glans begins is called the glans corona, and the constriction just below the corona is the coronal sulcus (figure 1).

The skin of the body of the penis starts to grow over the glans between 10 and 18 weeks of gestation, eventually covering the entire organ [1]. The prepuce is a specialized, junctional mucocutaneous tissue that forms the transition between the mucosal epithelium of the glans and the keratinized epithelium of the penile shaft, analogous to the eyelids. The double sheet of prepuce covers the glans for a variable distance and consists of several thin layers: inner squamous epithelium (mucosa), lamina propria, dartos muscle, dermis, and outer keratinized stratified squamous epithelium (figure 2) [2]. The frenulum is a ridge of tissue that extends from the base of the prepuce at the coronal sulcus to a point just inferior to the external urethral orifice (meatus) (figure 3). It is supplied by the frenular artery and vein, which can cause significant bleeding if disrupted during circumcision.

At birth, the prepuce is fused to the glans by filmy adhesions that prevent retraction (congenital or physiological phimosis). These adhesions resolve over time due to desquamation and epidermal keratinization. The resulting separation of the prepuce and the glans is called the preputial space and allows easy retraction.

Separation is completed in 50 percent of boys by age 3 years, 95 percent by age 5 years, and 99 percent by adolescence. In a small number of uncircumcised males, partial adhesions leading to accumulation of smegma may persist throughout childhood, and even into adolescence.

After circumcision — Circumcision removes some sensory receptors and most of the dartos muscle. The exposed glans mucosa becomes keratinized. The urethral meatus becomes more prone to external irritation due to exposure and, if the frenular artery is ablated, the blood supply may be reduced; these changes can lead to meatal stenosis [2].
TIMING OF CIRCUMCISION — No randomized trials have evaluated the optimal time for performing circumcision. The procedure is generally performed on healthy, medically stable, term infants between one and eight days after birth. A minimum period of 24 hours of observation after delivery provides time to detect abnormalities or illnesses that might need to be addressed before the elective procedure is performed (see 'Contraindications' below).

Most circumcisions are performed in the hospital before the infant (term or preterm) is discharged as this is convenient for parents, practical, and has a demonstrated record of safety. In some areas, the procedure on term infants is performed after discharge to assure that the infant is medically stable (eg, no longer losing weight, tolerating feeding, voiding, stooling, and jaundice has resolved or is waning). The safety of delayed circumcision is supported by data from ritual circumcisions in Judaism, which must be performed on the eighth day from the baby's birth. It is also supported by a prospective cohort study that compared 250 early (age 1 to 4 days) circumcisions with 100 late (age 5 months) circumcisions performed under local anesthesia by a single pediatric surgeon using a bone cutter (similar to a Mogan clamp), Gomco clamp, or Plastibell for early procedures and Plastibell for late procedures [3]. In this study, late procedures appeared to be associated with fewer complications and a more satisfactory cosmetic appearance than early procedures. Infant comfort and relative costs were not evaluated.

CONTRAINDICATIONS — The major contraindications to neonatal circumcision are:

- Bleeding diathesis
- Congenital penile anomalies
- Medical instability. This includes term newborns who are ill, as well as low birthweight/premature infants who are not ready for discharge from the nursery.

The risk of significant bleeding is increased if there is an underlying coagulopathy; therefore, a family history of bleeding diathesis or evidence of neonatal petechiae or neonatal bleeding diathesis should prompt hematological evaluation prior to the procedure. A neonatal platelet count should be obtained in asymptomatic neonates who are at high risk of thrombocytopenia. Consultation with a pediatric hematologist before the procedure is advised when there is suspicion of a bleeding diathesis. (See "Approach to the child with bleeding symptoms".)

The penis should be examined carefully for congenital anomalies before circumcision, as some anatomic abnormalities (eg, congenital chordee, penoscrotal fusion, congenital buried penis, urethral abnormalities) increase the risk of an adverse outcome. If an anomaly is identified, consultation with a urologist should be obtained prior to the procedure to determine whether the procedure should be performed, timing, and the appropriate surgeon.

Hypospadias has been considered a contraindication to circumcision because foreskin removal could complicate future urethroplasty. If the procedure is started and a dorsal slit (see below) is made before the anomaly is detected, most experts recommend that the procedure be stopped and the slit suture repaired. However, observational studies of the subgroup of hypospadias patients with an intact prepuce
report urethroplasty can be accomplished after circumcision without use of skin flaps by using urethral plate tubularization and coverage of the neourethra by a dartos flap [4,5]. Nevertheless, we suggest avoiding circumcision in infants with all degrees of hypospadias so as to give the urologic surgeon more options during repair. (See "Hypospadias").

Newborns with a small penis, buried or concealed penis, and/or especially large suprapubic fat pad should have circumcision delayed until the abnormal anatomy resolves. Generally, a penis ≤2 cm in length and anatomic factors that interfere with clear exposure of landmarks important for performing specific steps of the procedure are reasons for delaying circumcision, but this needs to be decided on a case-by-case basis by the practitioner who is going to perform the procedure. If the procedure is not performed in the newborn period, topical anesthesia is not an option and a nerve block or regional or general anesthesia in an appropriate facility should be provided.

PARENTS’ FINANCIAL OBLIGATION — Under some insurance plans, circumcision is not a covered benefit. Parents should be aware that they may be responsible for the cost of the procedure.

PREOPERATIVE PREPARATION — The clinician should confirm the following prior to performing the procedure:

- The infant is at least 12 hours old (preferably 24 hours old)
- The infant has voided at least once since birth
- The infant has not eaten for at least one hour prior to circumcision
- Written parental consent has been obtained
- The correct infant has been brought to the procedure room

The American Academy of Pediatrics (AAP) also recommends confirmation that the infant has received standard vitamin K prophylaxis [6]. Vitamin K deficiency bleeding in the first few days of life is rare, but a potential and preventable risk [7,8].

INFORMED CONSENT — The risks and benefits of circumcision should be thoroughly reviewed with parents. (See "Neonatal circumcision: Risks and benefits", section on 'Counseling'.) In addition to this discussion, we provide written information to all parents of male infants; the document we provide to our patients is shown in the tables (table 1A-B).

Infancy is the optimal time for circumcision [9]. There is some debate regarding whether parents have a legal right to give informed permission for the procedure rather than delaying it until the child reaches the age of assent [10]. The judicial system has allowed parents to make this decision in the best interest of their child. However, there have been cases where adult men have brought legal action against their parents and the operating physician because of lack of consent; only one such case has been successful (ended in a settlement).

PAIN CONTROL — We agree with major guidelines that recommend pharmacologic analgesia for safe and effective pain control during circumcision [11,12]. Newborns undergoing circumcision without analgesia exhibit behavioral and physiological signs of stress, such as crying and increased heart rate.
and blood pressure [13]. The stress may be due, in part, to the fact that infants are restrained prior to circumcision and almost all newborns dislike being restrained. Pain is also a factor as physiological sequelae of pain are observed during the most painful parts of the procedure. Interestingly, in 1860 when circumcision began to gain in popularity in the English speaking world, pain during circumcision was desirable. An article in Lancet stated, "the operation, too, should not be performed under chloroform, so that the pain experienced may be associated with the habit [masturbation] we wish to eradicate" [14].

Topical anesthetics (eg, 4 percent lidocaine cream; EMLA cream: 2.5 percent lidocaine and 2.5 percent prilocaine) are easy to administer and have been proven to reduce pain during circumcision compared to no anesthesia [15], but in a randomized trial lidocaine-prilocaine was not as effective as a nerve block [16].

Dorsal penile nerve block or circumferential subcutaneous local anesthesia (ring block) offer the best pain control [16,17]. Ring block appears to be more effective than dorsal penile nerve block, but data are limited to one randomized trial [16]. We prefer 1 percent lidocaine without epinephrine, and we avoid bupivacaine because of its increased potential for cardiovascular toxicity.

Irrespective of the technique used, it is important to wait long enough to allow the anesthetic to take effect.

- **Topical anesthesia** — Topical 4 percent lidocaine and lidocaine-prilocaine cream are similarly effective for circumcision [18,19], but 4 percent lidocaine is preferred because of faster onset on action (20 to 30 minutes versus 60 to 90 minutes) and fewer side effects and adverse reactions [12]. Newborns may be predisposed to prilocaine-related methemoglobinemia because they have low levels of methemoglobin reductase. In addition, topical anesthetics have been associated with an increased risk of skin irritation (erythema, swelling, blistering) in low birthweight infants; the risk is higher with topical lidocaine-prilocaine cream than with 4 percent lidocaine.

For term neonates, two grams of the topical cream are applied to the foreskin and penis, which is wrapped with an occlusive dressing until the anesthetic takes effect. The use of topical anesthetics is described in detail separately. (See “Topical anesthetics in children”.)

- **Dorsal penile nerve block** — A 27 or 30 gauge needle attached to a 1 mL syringe is inserted at the 2 o’clock position at the base of the penis in a posteromedial direction and to a depth of 0.3 to 0.5 cm beneath the skin surface [20]. The tip of the needle should be freely movable, indicating that it is imbedded in loose connective tissue. Once the needle is properly placed and negative pressure reveals no blood, 0.4 mL of 1 percent lidocaine without epinephrine is injected. The needle is then withdrawn and the procedure repeated at 10 o’clock (figure 4 and picture 1). The anesthetic takes effect in about seven minutes.

- **Ring block** — A 27 or 30 gauge needle attached to a 1 mL syringe is inserted into the lateral side of the penis at the base and 0.4 mL of 1 percent lidocaine without epinephrine is injected subcutaneously to create a bleb [20]. The needle is then advanced circumferentially
around the base of the penis, completing a 180 degree half circle. Intravascular injection can be avoided by frequently applying negative pressure prior to enlarging the subcutaneous ring. The procedure is repeated on the opposite side of the penis, so that a circumferential ring of anesthesia is completed around the penis. The anesthetic takes effect in about seven minutes.

The most common complications of dorsal penile nerve blocks and ring blocks are bruising, bleeding, and inadequate analgesia; hematomas occur rarely [21]. Toxicity from systemic absorption as a result of injection into a blood vessel can be avoided by aspirating to check for blood before injecting and, for the dorsal block, by injecting at the 10 and 2 o' clock positions, rather than in the midline.

Giving the infant a sucrose-dipped pacifier (24 percent solution) during and/or after the procedure appears to provide additional comfort [22], but is not a substitute for topical anesthesia or nerve block.

**PROCEDURE** — Circumcision should only be performed by well-trained practitioners, who may or may not be clinicians [12,23,24]. These individuals should be proficient in assessment of the infant for circumcision, administration of anesthesia, sterile procedural technique, and evaluation and management or referral of potential complications.

**Instrumentation and materials** — The room should have adequate warmth and lighting. The infant is typically placed on a circumcision board (eg, Circumstraint®), which restricts his movement during the procedure.

Ideally, a complete set of circumcision instruments in the full range of available sizes should be accessible. The clinician should ensure that all instruments are present, sterile, come together with precision, and have no defects. Anesthetic agents, a 1 mL syringe attached to a 27 to 30 gauge needle, alcohol pads, and antiseptic swabs or solution should be within easy reach. A 3-mL syringe with an 18 to 22 gauge needle is also needed for drawing up anesthetic. Absorbable gelatin sponge (eg, Gelfoam®), topical thrombin, silver nitrate sticks, and fine absorbable sutures should be available to control bleeding, if necessary.

The Centers for Disease Control (CDC) published a report on 11 cases of neonatal methicillin-resistant Staphylococcus aureus (MRSA) skin and soft-tissue infection in a well-infant nursery [25]. Uncovered circumcision equipment, use of multiple-dose lidocaine vials, and inadequate hand hygiene practices were associated with these infections, and should be avoided.

**Patient preparation** — The infant is placed in a suitable restraint (picture 2); physiologic positioning and use of a padded restraint appear to improve infant comfort [12]. The penis and at least a one-inch area of skin around the base of the penis are thoroughly scrubbed with at least three applications of an antiseptic agent (eg, chlorhexidine-alcohol) (picture 3). Excess antiseptic is wiped off with sterile gauze and a sterile fenestrated drape is placed to expose the penis. (See "Adjunctive measures for prevention of surgical site infection in adults", section on 'Skin antisepsis'.)
Wound infection (0.06 percent) and bacteremia (0.008 percent) are rare [26]; therefore, neither antibiotic prophylaxis nor endocarditis prophylaxis (for infants with congenital heart disease) is recommended. (See “Antimicrobial prophylaxis for bacterial endocarditis”.)

**Technique** — The three major techniques for circumcision are use of the Gomco clamp, Plastibell device, or Mogen clamp. Choice of modality depends upon clinician preference. The device that leads to the best results with the fewest complications is unclear as no randomized trials have directly compared these techniques. Procedures using the Mogen clamp take less time and thus may cause less distress than the Gomco clamp or Plastibell device, but require more expertise to achieve an optimal result.

Procedural principles common to all three techniques include:

- The appropriate amount of foreskin to be removed needs to be determined.
- The preputial orifice needs to be dilated so the glans can be examined for congenital anomalies.
- Adhesions that are normally present between the inner preputial epithelium and the epithelium of the glans need to be lysed.
- The circumcision clamp needs to be in place long enough to produce hemostasis.
- The prepuce is removed.

An important step in all circumcision procedures is insuring that the prepuce is not pulled too tightly or too loosely before it is excised; otherwise, too much or too little skin will be removed. We suggest marking the location of the corona with a pen or by placement of a hemostat to help guide this decision.

**The most important step is to ensure that the inner preputial epithelium is completely free from the glans and that the entire coronal sulcus is visualized before excision is performed.** Care must be taken to avoid vigorously disrupting the ventral frenulum and the vessels in the frenulum, as excessive trauma can lead to increased bleeding.

Most bleeding can be controlled with simple pressure on the area; ligation with a fine suture is required occasionally. If a hemostatic stitch placed in the frenulum enters the urethra, which is in close proximity, a urinary fistula can result. Therefore, it is important to ensure only superficial tissue is included in any stitches placed for hemostasis.

**Gomco clamp** — The Gomco clamp is a three-part device (base plate, bell, lock) (picture 4). The clamp crushes about 1 mm of the foreskin circumferentially, while the bell protects the head of the penis from injury by separating the glans from the inner preputial mucosa during removal of the foreskin. Bells for circumcision of the newborn typically come in three sizes; the appropriate size is estimated based upon the circumference of the glans. For a correct fit, the edge of the bell should reach the frenulum and minimally extend over the corona, slightly stretching the preputial skin, ie, the bell diameter should be slightly larger than the diameter of the glans.

Procedure:
- Apply two hemostats at the 3 and 9 o’clock positions on the foreskin (picture 5).
- While maintaining traction with the attached hemostats, open the third hemostat and sweep around the glans to break adhesions between the glans and inner mucosal layer of the foreskin, being careful to avoid the 5 to 7 o’clock position at the frenulum, which contains an arteriole (picture 6). Also be careful to clearly visualize the tip of the hemostat to make sure it does not go beyond the coronal sulcus or enter the meatus. If the mucosal adhesions are not completely separated from the coronal sulcus, then not enough mucosa will be removed with the foreskin and the glans will not be completely exposed after the procedure.
- Remove the third hemostat and use it to clamp the foreskin at the 12 o’clock position so that the hemostat tip is 0.5 cm from the coronal sulcus. The skin should be relaxed and fairly supple. If it is too taut, too much foreskin may be removed. Remove this hemostat and use scissors to cut along the crushed skin to its most proximal point (picture 7). Crushing the tissue before cutting minimizes bleeding.
- Retract the foreskin and remove any remaining adhesions with blunt dissection using gauze or a probe. The entire coronal sulcus should be visible.
- Replace the foreskin over the glans.
- Place the bell inside the foreskin and over the glans (picture 8) and remove the two hemostats. It is important to ensure that the apex of the crush injury/incision is visible above the rim of the bell to prevent notching at the border of the foreskin during removal.
- Slip the handle of the bell through the circular opening of the base plate, without letting the foreskin slip off. The foreskin with its underlying mucosa can be held in place while being advanced through the opening by grasping them with forceps, hemostats, or a sterile safety pin (picture 9A-C).

Inspect to ensure that equal amounts of foreskin and mucosa are present circumferentially and judge the amount of the shaft skin left below the corona; this skin should be relaxed and supple. If it is taut, too much foreskin may be removed. The amount of foreskin above the base plate can be adjusted at this time so the appropriate amount will be excised; however, this requires removing the bell from the yoke and then readjusting the bell, foreskin, and underlying mucosa.

- It is essential to check that the crossbar at the top of the bell sits squarely in the yoke of the clamp so pressure will be evenly distributed around the bell. Tighten the thumbscrew until snug to crush the foreskin between the bell and base plate; then cut the foreskin at the base plate using a scalpel blade. Electrocautery devices should never be used to excise foreskin because of the risk of thermal injury from conduction by the metal clamp.
- Carefully remove any remaining tissue in and around the groove that connects the clamp and bell.
- The clamp is secured for a total duration of at least three, and preferably five, minutes to allow optimal time for hemostasis from compression. After five minutes, loosen the thumbscrew and gently remove the clamp and bell (picture 10). Tissue edema can lead to
oozing from the crushed edge, so care should be taken to minimize excessive trauma of the foreskin during and after the procedure.

- Push any remaining shaft skin below the corona with gauze. However, if the majority of the glans is not exposed following circumcision, too little skin was removed and the patient may need to be referred to a pediatric urologist; the Gomco procedure should not be repeated. Conversely, if the shaft below the corona is not covered with skin after the circumcision, too much skin was probably removed and the patient may need to be referred to a pediatric urologist.

- Inspect the penis for bleeding, especially in the area of the frenulum (picture 11).

- Place a small nonstick bandage or petroleum gauze around the cut edge of the foreskin and then wrap the penis with a dressing, which should remain in place for 12 to 24 hours (picture 12A-B).

**Plastibell device** — The Plastibell device is a plastic bell with a groove around the edge. It is placed under the foreskin and over the glans, after which a suture is tied in the groove. The suture cuts off the blood supply to the foreskin, which ultimately drops off along with the bell.

The procedure begins in the same way as that for the Gomco clamp, described above (see 'Gomco clamp' above), first five bullets), except the dorsal slit incision should be just long enough to accommodate the Plastibell device (figure 5).

- Select the Plastibell cap that best fits the glans (six sizes are available). A cap that is too small will not allow sufficient foreskin to be removed, and a cap that is too large will cause the removal of excess foreskin. The proper fit is a cap that fits halfway down the glans. The groove is always distal to the corona.

- Separate the two sides of the dorsal slit incision to expose the glans, put the Plastibell device over the glans, and then close the foreskin over it. The foreskin must not be pulled too tightly, as excessive tension could pull the device back onto the shaft and compress the urethra.

- Wrap the string securely around the foreskin in the groove at the base of the bell. Some devices have a handle that helps secure the device and must be snapped off once the device has been secured.

- The excess foreskin above the suture can be removed so there is less necrotic tissue present.

- Discharge the infant with the bell part of the device still attached. The remaining foreskin, having lost its blood supply, will fall off with the bell in 6 to 12 days, completing the procedure.

If the device does not fall off during this interval, the parents should notify the physician promptly. Sometimes edema will trap the plastic ring on the penis, making it necessary to cut the ring off using a guide and ring cutter [27]. Venous congestion and necrosis can occur if the ring slips from the glans onto
the penile shaft; this is a serious complication which can result in urinary tract obstruction, infection, and loss of penile tissue.

Advantages of this technique are that the frenulum cannot be cut inadvertently and there are no incised edges that can bleed.

**Mogen clamp** — The Mogen clamp (picture 13) technique is the quickest, and therefore least painful, of the three procedures. Its disadvantage is that the glans is not well protected during clamping and cutting and thus may be injured. However, since the clamp only opens 3 mm, the chance of trapping the glans is minimal.

- The procedure for removing adhesions between the glans and inner mucosal layer of the foreskin is the same as that for the Gomco clamp, described above ((see 'Gomco clamp' above), first five bullets).
- After releasing preputial adhesions, place a hemostat in the dorsal midline with its tip 3 to 5 mm short of the corona. Remove the two foreskin edge grasping hemostats.
- Using your thumb and first finger of your nondominant hand, pinch the free foreskin underneath the dorsal hemostat while curling your other fingers of the same hand around the handles of the hemostat. This pushes the glans back out of the way of the Mogen clamp. Release any traction on the hemostat and foreskin because traction on the frenulum can dorsally rotate the glans and bring the meatus into the path of the Mogen clamp. Maintain the pinch while the Mogen clamp is placed. The tips of the pinching fingers should be slightly proximal to the tip of the grasping hemostat.
- Slide the Mogen clamp anteriorly to posteriorly just above your fingers to protect the glans when the clamp is applied. The clamp is placed at the same angle as the corona with the hollow side facing the glans. At this angle, more foreskin is removed dorsally than ventrally.
- Before locking the Mogen clamp shut, manipulate the glans to be sure it is free of the clamp.
- Close and lock the clamp (picture 14).
- Remove the foreskin distal to the clamp with a scalpel blade (picture 15).
- Leave the clamp on for a few moments to ensure hemostasis, then unlock and remove it. Hemostasis is dependent on the adequacy of the crush injury and absence of tissue edema, which can stress the cut edge.
- Retract the foreskin, which will be agglutinated by the clamp, and apply dressings as after the Gomco procedure (see 'Gomco clamp' above).

As with the Gomco procedure, a small nonstick bandage or petroleum gauze is placed beneath a dressing and is removed the following day.

**COMPLICATIONS** — Complications and their treatment are discussed separately. (See "Complications of circumcision").
POSTCIRCUMCISION CARE — Parents should be provided with printed patient information about post-circumcision care. They should be informed that some swelling can be expected, that a crust will form on the area, and that some blood may be seen on the diaper, but the physician should be called if the blood stain is greater than the size of a quarter. The infant should urinate within 12 hours of the procedure.

Petroleum ointment or a water-based lubricant (eg, K-Y® jelly) is placed over the wound for at least three to five days to prevent adhesion of the exposed glans to the diaper. The penis can be gently cleansed with soap and water if it is soiled. Otherwise, the entire penis is washed whenever the infant is bathed.

INFORMATION FOR PATIENTS — UpToDate offers two types of patient education materials, “The Basics” and “Beyond the Basics.” The Basics patient education pieces are written in plain language, at the 5th to 6th grade reading level, and they answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials. Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are written at the 10th to 12th grade reading level and are best for patients who want in-depth information and are comfortable with some medical jargon.

Here are the patient education articles that are relevant to this topic. We encourage you to print or e-mail these topics to your patients. (You can also locate patient education articles on a variety of subjects by searching on “patient info” and the keyword(s) of interest.)

- Basics topics (see “Patient information: Circumcision in baby boys (The Basics)”)
- Beyond the Basics topics (see “Patient information: Circumcision in baby boys (Beyond the Basics)”)  

SUMMARY AND RECOMMENDATIONS

- Circumcision can be performed on healthy infants who are at least 24 hours old. (See 'Timing of circumcision' above.)
- The major contraindications to neonatal circumcision are bleeding disorders, some penile anomalies, and medical instability. (See 'Contraindications' above.)
- We recommend providing anesthesia during circumcision (Grade 1B). We suggest using a local nerve block rather than a topical anesthetic (Grade 2B). (See 'Pain control' above.)
- We suggest use of any of the three major techniques for neonatal circumcision: Gomco clamp, the Plastibell device, or Mogen clamp (Grade 2C). (See 'Technique' above.)
- The most important step when performing circumcision is to ensure that the inner preputial epithelium is completely free from the glans and that the entire coronal sulcus is visualized before excision is performed. (See 'Technique' above.)
- It is also important in all circumcision procedures to ensure that the foreskin is not pulled too tightly or too loosely before it is excised, otherwise too much or too little skin will be removed. We suggest marking the location of the corona with a pen or otherwise indicating
its location by placement of hemostat to help guide this decision (Grade 2C). (See ‘Technique’ above.)

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REFERENCES

- Gomco clamp with safety pin
- Gomco on glans
- Circumcised penis
- Petroleum gauze
- Petroleum gauze dressing
- Mogan clamp
- Mogan clamp applied to foreskin
- Cutting foreskin off Mogan clam

**TABLES**

- Circumcision info sheet A
- Circumcision info sheet B

**RELATED TOPICS**

- Adjunctive measures for prevention of surgical site infection in adults
- Antimicrobial prophylaxis for bacterial endocarditis
- Approach to the child with bleeding symptoms
- Complications of circumcision
- Hypospadias
- Neonatal circumcision: Risks and benefits
- Patient information: Circumcision in baby boys (Beyond the Basics)
- Patient information: Circumcision in baby boys (The Basics)
- Topical anesthetics in children

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