

“A Cut Above the Rest”: Developing a Circumcision Service

Division of Pediatric Hospitalist Medicine
University of Michigan Department of Pediatrics
C.S. Mott Children’s Hospital
PHM, July, 2017

Disclosures

- None

- **Our Team**
- **Who are you?**
- **Your Experiences/what do you hope to gain?**

- **State the indications and contraindications of the circumcision procedure**
- **Identify potential benefits and barriers of implementing a circumcision service and potential solutions**
- **Practice using the GOMCO clamp technique on a circumcision simulation model**

- One of the oldest and most commonly performed procedures
- Evidence of circumcision in Egypt in mummies
- No single origin
- Jewish and Muslim traditions but also other societies without connection to a faith
- Different Opposing purposes
 - Initiation of boys into a tribe
 - Mark of slavery

Pinto K. Circumcision Controversies. *Pediatr Clin North Am.* 2012 Aug;59(4):977-86

- **Dr. Lewis Sayre - 19th century orthopedic surgeon used amputation or manipulation of foreskin to cure paralysis**
- **Other Maladies**
 - Impotence
 - Masturbation
 - Bed wetting
 - Night terrors
 - Homosexuality

Pinto K. Circumcision Controversies. *Pediatr Clin North Am.* 2012 Aug;59(4):977-86

Indications

- **Phimosis**
- **Paraphimosis**
- **Balanitis**
- **Localized pathologic conditions of the foreskin (e.g., warts)**
- **UTI**
- **Possible role of prophylaxis**

Pinto K. Circumcision Controversies. *Pediatr Clin North Am.* 2012 Aug;59(4):977-86

AAP Recommendation

- **Health benefits outweigh the risks**
 - Not great enough to recommend routine circumcisions
 - Sufficient to justify access to the procedure
- **Procedure is well tolerated when performed by trained professionals under sterile conditions with appropriate pain management**
- **Complications are infrequent and lowest in the neonatal period**
- **Parents deserve factual, unbiased information**

American Academy of Pediatrics Task Force on Circumcision. Circumcision policy statement. *Pediatrics.* 2012 Sep;130(3):585-6. (re-affirmed Nov, 2015)

- **Bleeding**
- **Infection: local and systemic**
- **Poor cosmetic outcome**
 - Skin bridges
 - Too little skin removed
- **Injury or damage to the penis**
- **Pain**

Morris BJ, Ballis SA, and Wiswell TE. Circumcision rates in the United States: rising or falling? What effect might the new affirmative pediatric policy statement have? *Mayo Clin Proc.* 2014 May;89(5):677-86

- **Most cost effective when done ≤ 28 days**
 - \$285 (neonatal) vs \$1185 (post-neonatal)
- **Post-neonatal has higher complication rates due to anesthesia**
- **Benefits outweigh risks 100 to 1**

Hart-Cooper GD et al. Circumcision of Privately Insured Males Aged 0 to 18 Years in the United States. *Pediatrics.* 2014 Nov;134(5):950-6



Benefits

- **Reduction of:**
 - UTI (3x-10x)
 - Penile cancer
 - Cervical Cancer in female partners
- **STDs**
 - HIV
 - HSV
 - HPV
 - Bacterial Vaginosis in female partners

American Academy of Pediatrics Task Force on Circumcision. Male Circumcision. *Pediatrics*. 2012 Sep;130(3):e756-85.



Financial Benefits

- **Average reimbursement per circ = \$207**
- **Volume = Average of 200/month**
- **Revenue for our group = Over \$200K net (after facility fee capture and differences in reimbursement rates)**
- **Revenue for your institution**

- **A dedicated, standardized service...**
 - Assists with timely and predictable delivery of service which should not delay discharges
 - Improves overall quality

Circumcision Complications

- **Types of complications**
- **National data on frequency**
- **Local data/our experience**
- **Factors that impact rate of complications**

- **Correctional Procedure**
- **Bleeding**
- **Infection/Inflammation**
- **Strictures/Meatal Stenosis**
- **Amputations**
- **Adhesions**
- **Pain**
- **Poor Cosmesis Without Correctional Procedure**

Types of Complications

- **Correctional Procedure**
- **Bleeding**
- **Infection/Inflammation**
- **Strictures/Meatal Stenosis**
- **Amputations**
- **Adhesions**
- *Pain*
- *Poor Cosmesis Without Correctional Procedure*

AAP 2012 Complications Summary

- The true incidence of complications are unknown, partly due to differing definitions of “complication” and differing standards for the timing of when a complications occurs.
- It is difficult to adequately assess the total impact of complications because the data are scant and inconsistent regarding the severity of complications.
- Significant acute complications are rare ~1/500 (0.2%)
- The majority of severe injuries are so infrequent as to be reported as case reports.
- In general, the specific technique does not afford a significant difference in risk of complications.

American Academy of Pediatrics Task Force on Circumcision. Male Circumcision Technical Report. Pediatrics. 2012;130:e756.



National Data on Rates of Adverse Events

- Administrative data set, United States, 2001-2010
- Estimated incidence rate of adverse events (AE) for circumcised vs. uncircumcised by comparing incidence risk ratio and incidence rate difference
- Association rather than causality determined
- Total estimated incidence rate of probable AE was 0.40% for boys circumcised in infancy (1)
 - In same range as smaller, prospective study (2)

1. El Bcheraoui C, Zhang X, Cooper C, Rose CE, Kilmarx PH, Chen RT. Rates of Adverse Events Associated With Male Circumcision in US Medical Settings, 2001 to 2010. *JAMA Pediatr.* 2014;168(7):625-634.

2. Ben Chaim J, Livne PM, Binyamini J, Hardak B, Ben-Meir D, Mor Y. Complications of circumcision in Israel: a one year multicenter survey. *Isr Med Assoc J.* 2005;7(6):368-370.



National Data on Rates of Adverse Events

Adverse Event*	Count Per Million**		P Value	Value**	
	Among Uncircumcised Newborns (n=1 032 948)	Among Circumcised Newborns (n=1 306 812)		Incidence Risk Ratio	Incidence Rate Difference
Correctional Procedures	644	3281	<0.001	4.02	1887.23
Bleeding	462	1889	<0.001	3.23	998.24
Surgical Procedures	224	52	<0.001	0.18	-177.06
Disorders of Penis	1062	799	<0.001	0.59	-416.71
Infections	842	834	<0.001	0.78	-176.95
Inflammation	313	616	<0.001	1.55	168.36
Strictures	73	104	0.44	1.12	8.91
Amputations	4	3	0.47	0.59	-1.58
Wounds	32	89	<0.001	2.19	37.12

*Data for each category overall; complete breakdown available at end of slide set for those interested

**95% CI available at end of slide set for those who are interested

El Bcheraoui C, Zhang X, Cooper C, Rose CE, Kilmarx PH, Chen RT. Rates of Adverse Events Associated With Male Circumcision in US Medical Settings, 2001 to 2010. *JAMA Pediatr.* 2014;168(7):625-634.



Most Common Adverse Events Probably Associated with Male Circumcision

- **Correctional Procedures**
 - Repair of incomplete circumcision (0.07%)
 - Lysis/excision of penile postcircumcision adhesions (0.06%)
 - Other repairs of penis (0.03%)
 - Division of penile adhesions (0.02%)
 - Suture of laceration of penis (0.02%)
- **Bleeding**
 - Intraoperative bleeding (0.09%)
 - Hemorrhage control (0.01%)
- **Inflammation**

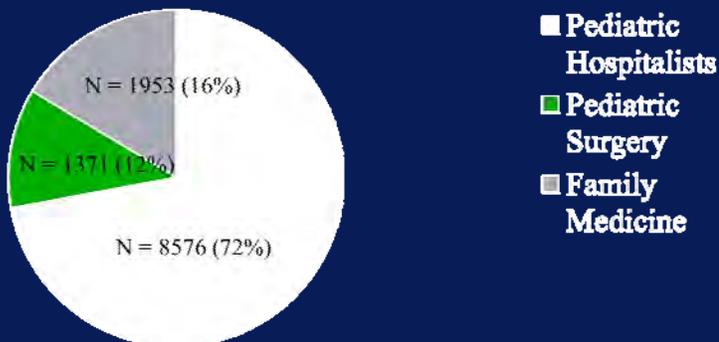
1 El Bcheraoui C, Zhang X, Cooper C, Rose CE, Kilmarx PH, Chen RT. Rates of Adverse Events Associated With Male Circumcision in US Medical Settings, 2001 to 2010. *JAMA Pediatr.* 2014;168(7):625-634.



Our Experience

- **Identified all neonatal circumcision patients by examining billing records from June 2, 2004 to June 7, 2013**
- **ICD-9 diagnosis codes, procedure codes, and consult notes identified patients with potential complications and revisions**
- **Complication/revision rates compared by service and method using chi-square and Fisher's Exact tests**

Neonatal Circumcision Provision by Service
Total = 11,900 patients



- **Complications Noted:**
 - Bleeding
 - Urethral/Penile Injury
 - Retained device (Plastibell)

Overall Complication Rate	Overall Revision Rate
0.34%	0.66%

Overall complication rate consistent with the approximate 0.4% rate seen in literature

- **Complication and revision rates by circumcision methodology**

	Plastibell	Gomco	P value (OR)
Complication Rate	1.31%	0.21%	<0.0001* (OR=6.35 [3.40-11.88])
Revision Rate	2.04%	0.47%	<0.0001* (OR=4.37 [2.74-6.96])

Plastibell device has a significantly higher complication rate and rate of revision compared to Gomco clamp

- **Complication and revision rates by service**

	Pediatric Hospitalists	Family Medicine + Pediatric Surgery	P value (OR)
Complication Rate	0.24%	0.57%	0.0057* (OR= 2.34 [1.26-4.36])
Revision Rate	0.50%	1.05%	0.0008* (OR= 2.11 [1.35-3.31])

Pediatric hospitalists had significantly lower complication & revision rates compared to more experienced services grouped together



Our Experience

- **Nonsurgical services can be taught to provide safe circumcision services.**
- **As seen in other data, complication rates of circumcision by Plastibell are higher than those with Gomco clamps.**



Other Factors That Impact Complications

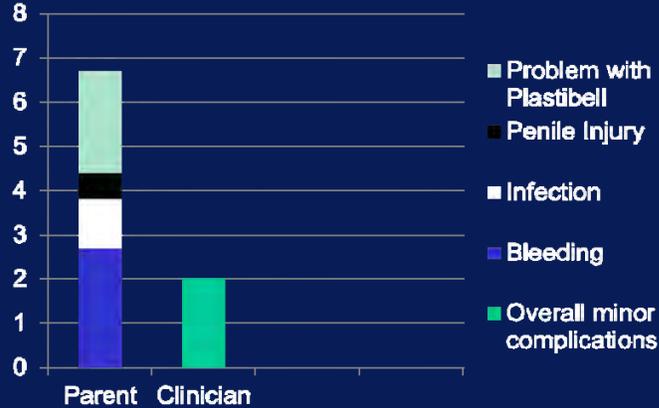
- **Age at time of circumcision**
- **Parents' versus clinician's assessment**

El Bcheraoui C, Zhang X, Cooper C, Rose CE, Kilmarx PH, Chen RT. Rates of Adverse Events Associated With Male Circumcision in US Medical Settings, 2001 to 2010. *JAMA Pediatr.* 2014;168(7):625-634.

Freeman JJ, Spencer AU, Drongowski RA, Vandeven CJM, Apgar B, Teitelbaum DH. Newborn circumcision outcomes: Are parents satisfied with the results? *Pediatr Surg Int.* 2014;30:333-338

Parent vs Clinician Assessment

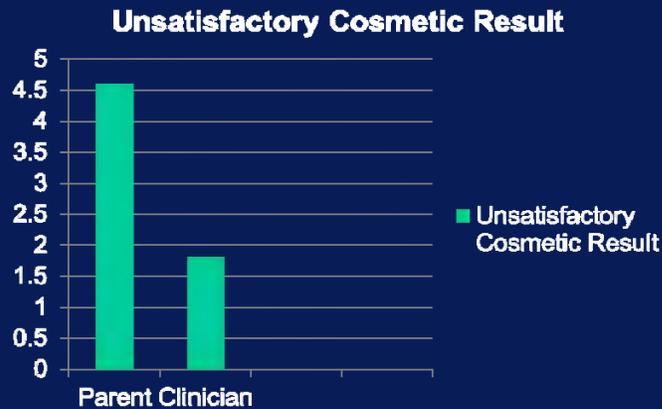
- In a prospective study of 710 male infant circumcisions,



Freeman JJ, Spencer AU, Drongowski RA, Vandeven CJM, Apgar B, Teitelbaum DH. Newborn circumcision outcomes: Are parents satisfied with the results? *Pediatr Surg Int.* 2014;30:333-338

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Circumcisions: Negotiating with Other Departments

Current State

- **Identify service primarily performing circumcisions now**
 - PCPs
 - OB/GYN
 - Family Medicine
- **Meet with key MD stakeholders to identify issues**
 - Issues: give up potential revenue source, loss of training for their residents
 - Benefits: free up more time for other things (i.e. clinic visits, delivering babies, etc)

- **Identify service that could potentially train your providers**
- **Identify service that will perform the “complicated” circumcisions**
 - Too small (pediatric surgery)
 - Anatomic abnormalities (pediatric urology)
 - Hypospadias, chordee, twisted raphe, penile-scrotal web
- **Identify service/provider that will help with mid-circumcision issues**
 - Bleeding, unanticipated hypospadias, dorsal slit without circumcision

- **Can be difficult as there are a lot of competing interests**
 - Is the doctor available to do it?
 - Is there a tech available to assist?
 - Is the nurse ok with the circumcision being done?
 - Is the procedure room free?
 - Is the baby greater than 12 hours old?
 - Has the bath been given?
 - Is the baby available?
 - Feeding
 - Family visiting
 - Hearing Screening
 - Does a parent want to watch and are they available?

Scheduling

- **At our institution, we have dedicated times for circumcisions**
 - 8:30pm-10pm
 - 5:00am-6:00am
- **This allows us to capture every baby born in a 24 hour period prior to discharge at a time when they are greater than 12 hours old**
- **Sets the expectation of when the circumcisions are to be done**
 - Ex: bath done prior, feeding not done in this window, techs available, room free

Steps involved and time it takes

- **Obtain consent (10 minutes)**
- **Bring the baby to the procedure room (1-5 minutes)**
- **Prep the baby for the circumcision and perform a time out (1-5 minutes)**
- **Perform the circumcision (10 minutes)**
- **Bring the baby back to the room (1-5 minutes)**

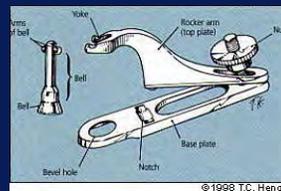
- Hospitalists
- RN
- Tech
- Clerk

	Before 8:30 PM	8:30 PM - 10:00 PM	Before 5:00 AM	5:00 AM - 6:30 AM	MISC
Hospitalist	<ul style="list-style-type: none"> *ID which babies to have procedure *Get consents signed *Update white board by nursery: Name, room and time for procedure *Contact RN Team Leader @ 23030 if not able to start at 8:30 pm. 	<ul style="list-style-type: none"> *Bring first baby to procedure room *Perform circumcision *Write Time of Circumcision on consent form *Do procedure note and medication order *Repeat steps 2-4 until all babies are done 	<ul style="list-style-type: none"> *Consent more if needed *Update white board by nursery as needed *Contact RN Team Leader @ 23030 if not able to start at 5:00 am 	<ul style="list-style-type: none"> *Bring first baby to procedure room *Perform circumcision *Write Time of Circumcision on consent form *Do procedure note and medication order *Repeat steps 2-4 until all babies are done 	
Tech #1	<ul style="list-style-type: none"> *Notify RN Team Leader @ 23030 if 2 staff not available for 8:30 pm *Check that procedure room is ready 	<ul style="list-style-type: none"> *Assist Hospitalist with procedure *Take down dirty instruments and procedure tray *Clean room/area for next procedure *Setup for next procedure 	<ul style="list-style-type: none"> *Notify RN Team Leader @ 23030 if 2 staff not available for 5:00 am *Make sure procedure room is ready 	<ul style="list-style-type: none"> *Assist Hospitalist with procedure *Take down dirty instruments and procedure tray *Clean room/area for next procedure *Setup for next procedure 	
Tech #2		<ul style="list-style-type: none"> *Check white board by nursery for which babies to have procedure *Bring second baby to nursery *Take first baby back to parents, give survey to parents *Give consent form to clerk and ask to have nurse paged/called *Repeat steps 2-4 until all babies are done 		<ul style="list-style-type: none"> *Check white board by nursery for which babies to have procedure *Bring second baby to nursery *Take first baby back to parents, give survey to parents *Give consent form to clerk and ask to have nurse paged/called *Repeat step 2-4 until all babies are done 	<ul style="list-style-type: none"> *Refer medical questions to Hospitalist, page 2288 and let them know what room has questions
RN	<ul style="list-style-type: none"> *RN Team Leader notify Hospitalist @ 2288 if 2 staff members are not available for 8:30 pm. 	<ul style="list-style-type: none"> *Perform first circumcision check *Perform second circumcision check; Coordinate with OB Tech for second check 	<ul style="list-style-type: none"> *RN Team Leader notify Hospitalist @ 2288 if 2 staff members are not available for 5:00 am. 	<ul style="list-style-type: none"> *Perform first circumcision check *Perform second circumcision check; Coordinate with OB Tech for second check 	
Clerk		<ul style="list-style-type: none"> *Receive consent form with time procedure was done *Notify RN that procedure was done and the time (call & page) *Confirm with RN that she is aware of procedure completion time 		<ul style="list-style-type: none"> *Receive consent form with time procedure was done *Notify RN that procedure was done and the time (call & page) *Confirm with RN that she is aware of procedure completion time 	

Questions and Answer Session and BREAK

Techniques

- **3 potential Techniques for Neonatal Male Circumcision:**
 - Gomco Clamp
 - PlastiBell
 - Mogen Clamp



Initial Steps

- **Obtain Informed Consent from the Parents**
 - During the process, ask about risk factors for bleeding.
- **Perform a time-out prior to the start of the procedure**
- **Examine the patient's anatomy for any contraindications**

Informed Consent

UNIVERSITY OF MICHIGAN HOSPITALS & HEALTH CENTERS

Request and Consent to Neonatal Circumcision

PLEASE PRINT CLEARLY WHEN COMPLETING THIS SECTION.

1. I have spoken with my doctor about performing a circumcision for my newborn son. The procedure to be performed is a neonatal circumcision (removal of a portion of the foreskin of the penis).

2. Dr. _____ has explained the procedure to me (a). My son's circumcision will be performed or supervised by _____ (b). I understand the potential benefits of the procedure. I request that the UH and its relevant physicians perform a circumcision consisting of removal of adhesions (areas that are stuck together) between the foreskin and the penis, and removal of a portion of the foreskin of the penis (circumcision).

3. I understand there are risks to my child if the circumcision is done. These risks were explained to me. I had a chance to have my questions answered and I understand the risks include: bleeding, infection, injury to the penis or surrounding tissues, poor cosmetic result. If the penis, beneath the foreskin, appears abnormal and could not be seen prior to the procedure, then the circumcision may need to be stopped and a referral made to a specialist for consultation. The best literature suggests a risk of 1:500 - 1:1000 risk of a major complication (major bleeding, injury to penis, requirement of further surgery or hospital). There are extremely rare risks associated with the use of anesthetic agents. These include bleeding, tissue damage or severe drug reaction.

4. I understand the location of the procedure. I understand this location will not be needed.

5. My doctor has explained the possible alternatives to the circumcision and the risks. I want my son to have the procedure. I understand that this is an elective procedure that is not medically indicated.

6. I hereby donate and authorize the University of Michigan to own, retain, possess, manipulate, analyze, or dispose of any excess tissues, specimens, or parts of organs that are removed from my son's body during the procedure described above and are not necessary for his diagnosis or treatment. The University of Michigan may use or retransfer these items for any lawful purpose, including educational and retrospective research or anonymous specimens. The tissue will not be used in any way to my son.

7. I request and authorize the University of Michigan and such doctors, nurses, medical residents and other trainees, technicians, assistants or others as may be assigned to my son's case to participate in the procedure. I understand this may also include representatives of companies that are required that may be used in the surgery or procedure. I also understand that the University of Michigan Hospital is a teaching hospital and that medical and other students can and do participate in procedures as part of their education. By signing this form, I am agreeing to allow medical or other students to observe or participate in the surgery or procedure.

8. I understand that unexpected events may happen before or during a surgery or procedure. This may require changing the procedure or require additional to perform or supervise my son's procedure.

9. I understand that the practice of medicine, surgery and dentistry is not an exact science. I have been told of the probability, outcomes, or side effects of the procedure. No promises or guarantees have been made or can be made to me about the success, and the risks involved and have no other questions.

I have read all of the information above. I have been given the chance to ask any questions. I understand the answers and the risks involved and have no other questions.

On behalf of my son I consent to the procedure(s) listed in #2 above (Please initial box).

Exceptions (to be completed by Provider ONLY):

I HAVE READ AND UNDERSTAND THE INFORMATION ON THIS PAGE BEFORE I SIGNED IT.

Signature of Parent or Legally Authorized Representative: _____ Consent Obtained and Witnessed by: _____

Printed Name of Parent or Legally Authorized Representative: _____ Date: _____ Time: _____ A.M. / P.M.

Provider: Nurse Physician Legal Guardian Other: _____ (Print name) _____

Page 1 of 1

REQUEST AND CONSENT TO NEONATAL CIRCUMCISION



**Peleg D, Steiner A. The Gomco Circumcision: Common Problems and Solutions. Am Fam Physician. 1998 Sep 15;58(4):891-898*

- Hypospadias or Epispadias
- Chordee
- Buried Penis
- Size (too small for clamp, micropenis, etc)
- Ambiguous genitalia
- Penile web
- Penile torsion

The Steps Common to all Techniques

- Immobilize the baby
- Provide analgesia
- Prep and drape in a sterile fashion.



**UpToDate*

Analgesia

- AAP and ACOG guidelines recommend pharmacologic analgesia for safe and effective pain control during circumcision

- **Topical Anesthetics**
- **Dorsal penile nerve block**
- **Circumferential or Ring block**
 - A RCT showed that efficacy of Ring block > Dorsal block > EMLA (Lander JAMA 1997)
- **Adjuvant therapies:**
 - Sucrose
 - Acetaminophen

- **4% lidocaine cream or lidocaine-prilocaine cream (EMLA) are similarly effective**
- **4% lidocaine is preferred to EMLA:**
 - faster onset on action (20-30 min vs 60-90 min)
 - fewer side effects and adverse reactions: Newborns may be predisposed to prilocaine-related methemoglobinemia
- **Associated with an increased risk of skin irritation (erythema, swelling, blistering)**

Dorsal penile nerve block

- **27G or 30G needle with 1 mL syringe**
 - Insert at 2 o'clock position at the base of the penis
 - Repeat at 10 o'clock
 - in a posteromedial direction, to 0.3 - 0.5 cm depth
 - needle should be freely movable, indicating it is in loose connective tissue, without blood return
- **0.4 mL of 1% lidocaine *without* epinephrine is injected.**
- **Takes effect in about seven minutes.**



UpToDate

Circumferential or Ring nerve block

- **Insert into the lateral side of penis base**
- **0.4 mL of 1% lidocaine *without* epinephrine is injected to create a bleb**
 - Advance needle circumferentially around the base of the penis, completing a 180 degree half circle.
- **Frequently apply negative pressure prior to enlarging the subcutaneous ring.**
- **Procedure is repeated on the opposite side of the penis**
- **Takes effect in about seven minutes.**

Adjuvants

- **24% sucrose on a pacifier**
 - Safe and effective for reducing procedural pain.
 - Optimal dose not identified due to inconsistency in effective sucrose dosage among studies. (Cochrane Review 2013)
 - throughout procedure as needed for agitation or signs of pain.
- **Acetaminophen**
 - Both to be used as needed in *ADDITION* to lidocaine



<http://www.circumcisions.com.au>

The Steps Common to all Techniques

- **Place 2 hemostats on the foreskin (at the 3 o'clock and 9 o'clock positions):**



**UpToDate*

The Steps Common to all Techniques

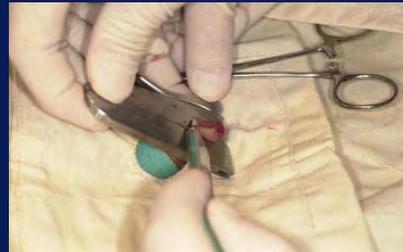
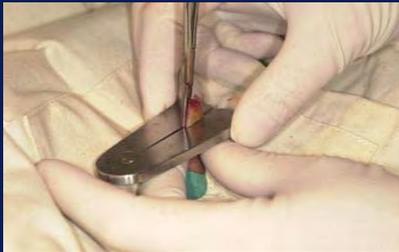
- Break down adhesions using a 3rd hemostat:



UpToDate

Using the Mogen Clamp

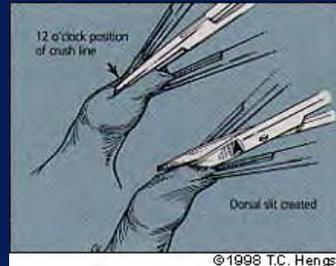
- Pull foreskin up over the glans and apply the clamp. The foreskin is then cut against the clamp:



**UpToDate*

Using the Gomco or PlastiBell

- After breaking up adhesions, create a dorsal slit by first clamping the foreskin tissue to be cut, then cutting along this clamped tissue to minimize blood loss.



**Peleg D, Steiner A. The Gomco Circumcision: Common Problems and Solutions. Am Fam Physician. 1998 Sep 15;58(4):891-898*

Using the Gomco or PlastiBell

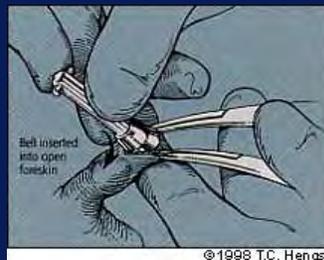
- Retract the foreskin and make sure all adhesions have been reduced.

Using the PlastiBell

- **Fit the PlastiBell over the glans.**
- **Pull the foreskin over the bell.**
- **Tie a string at the site you want the foreskin to be removed.**
- **Break off the handle of the bell.**
- **The tissue distal to the string will become necrotic and will fall off, along with the PlastiBell apparatus, in about 1 week.**

Using the Gomco

- **After adhesions have been cleaned, pull the foreskin up and fit the bell in the foreskin, over the glans:**



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Using the Gomco

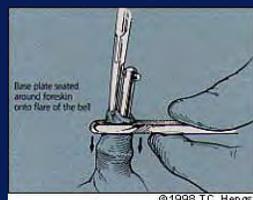
- Using a hemostat, clamp the dorsal slit together over the bell. (Can also use a safety pin or suture)
- Remove the hemostats at the 3 and 9 o'clock positions.



**UpToDate*

Using the Gomco

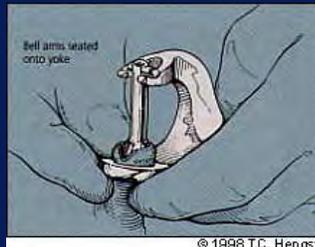
- Place the base plate over the bell.
- Using another hemostat, reach through the bevel hole on the base plate and again clamp together the dorsal slit. (alternatively, pull the safety pin through the bevel hole)
- The foreskin can then be pulled through the bevel hole using this hemostat or safety pin.



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Using the Gomco

- After pulling the foreskin up through the bevel hole, apply the rocker arm then screw down the nut.



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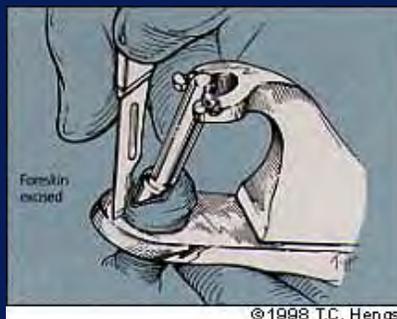


*UpToDate

*Peleg D, Steiner A. The Gomco Circumcision: Common Problems and Solutions. Am Fam Physician. 1998 Sep 15;58(4):891-898

Using the Gomco

- Using a scalpel, cut off the foreskin.
 - Trick: After the foreskin is removed, turn the scalpel over (with blade to the ceiling) and use the point of the blade in the groove between the bell and bevel hole to remove any remaining skin.



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Using the Gomco

- **Wait 5 minutes for hemostasis**
- **Remove the clamp.**



**UpToDate*

Comparing the Methods

- **Overall, all 3 techniques have similar reported complication rates.**
 - There are, however a few case reports of amputation of the glans using the Mogen Clamp.
 - There are also reports of failure of the PlastiBell device to spontaneously fall off, requiring intervention for removal of the device.

Comparing the Methods

- All methods have been shown to be relatively well tolerated. The Mogen clamp, however, is faster and better tolerated than the Gomco clamp.
- All 3 methods can be easy to use with proper training.

Procedure Note

Circumcision Procedure Note

Preoperative Diagnosis / Indication: Redundant foreskin

Postoperative Diagnosis: Circumcised penis

Resident Performing Procedure (if any):

Procedure and Findings:

An informed consent was obtained by myself or my partner. I reviewed the document with the parent/s, discussing the risks and benefits, verified that it was signed, and gave the parent/s the opportunity to ask questions.

A time-out was called out immediately prior to the procedure, verifying correct patient, procedure site, and positioning. The infant was placed on a restraining board, prepped and draped in a sterile fashion. Local anesthetic was applied as follows:

Anesthetic Agent/Block: Sucrose solution on pacifier, with parents' permission, per protocol, Lidocaine 1% 1.0 cc as a dorsal nerve block/ventral nerve block/circumferential block.

The adhesions between the glans and the foreskin were separated by blunt dissections. A dorsal slit was made and the Gomco circumcision clamp was applied in the usual manner. The clamp was left on for 5 minutes for hemostasis. The foreskin was then excised with a scalpel and the clamp was removed. No active bleeding was noted. The infant was dressed in a double diaper with Vaseline applied as a pressure dressing. The infant was returned to the mother in good condition. A circumcision care handout was provided to the parents. Tylenol was written for 15mg/kg every six hours as needed for pain.

Gomco Clamp Size Used: ***

Estimated Blood Loss: Minimal

Billing/Coding:

54150 Circumcision

Care Afterwards

 Von Voigtländer Women's Hospital
1000 E. Medical Center Drive
Ann Arbor, Michigan 48106-0000
734.764-8134

Circumcision Care

1. Immediately after the circumcision, a double diaper (one cloth diaper inside the disposable diaper) with petroleum jelly (Vaseline) applied to the front will be placed on your baby and remain on for about two hours. This double diaper will aid in preventing any bleeding. The petroleum jelly will protect the tip of the penis from burning when the baby urinates and also from drying and sticking to the diaper.
2. Your nurse will be checking on your baby for bleeding and pain. If you need help changing your baby or have any questions, please ask your nurse.
3. At first, the tip of the penis is swollen and bright red in color. Within one or two days, you will notice a decrease in the swelling and may see a yellow covering over the tip of the penis. This is normal new tissue growth.
4. Your baby may be given acetaminophen (Tylenol) after the circumcision for pain control with your permission.

Care at Home

1. After the initial two-hour period, you may diaper your baby normally, using about one tablespoon of petroleum jelly with every diaper change until the penis is healed. The healing will occur in three to four days. The healing is complete when the tip of the penis is pink like the rest of the skin.
2. For cleaning the entire penis for the first two to three days, pouring warm (not hot) water over it should be sufficient. After this time, if it is necessary, you may use a mild soap.

Call Your Baby's Doctor

1. If the penis again becomes swollen and reddened and has a greenish-yellow, foul smelling discharge, this could mean a possible infection. Should this occur, please contact your baby's doctor immediately.
2. It is normal to have some blood spots on the baby's diaper for the first couple of days. If you notice any active dripping of blood from the penis, call your baby's doctor immediately.
3. If your baby does not urinate once within 24 hours after the circumcision, please call your baby's doctor for further instructions.
4. If you have any questions or concerns, please call your baby's doctor.

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Care Afterwards (continued)

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How to Give Your Child Acetaminophen (Tylenol) Liquid

Your baby may need acetaminophen (brand name Tylenol) liquid to reduce pain after his circumcision. Please call your baby's doctor if you have any questions.

The formulation for children is typically 160mg/5ml.

1. Children's acetaminophen liquid is available at your drug store.
2. The dose for your baby if he weighs more than 5 pounds (8 ounces is 1 ml of infant) acetaminophen. You may give your baby infant's acetaminophen every six to eight hours. Only use the measuring cup/syringe provided with the medication.
3. If you are not sure which bottle of acetaminophen to buy, please talk with the pharmacist at the drug store.
4. Sometimes it is difficult to tell if your baby really needs pain medication. If you need to use pain relief at the recommended dose for more than 48 hours, please talk to your baby's doctor before continuing treatment. Prolonged use of any medication can be harmful. Please consult your baby's doctors with any questions.

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- Peleg D, Steiner A. The Gomco Circumcision: Common Problems and Solutions. *Am Fam Physician*. 1998 Sep 15;58(4):891-898
- Kurtis P, DeSilva H, Berstein B, Malakh L, Schecter N. A Comparison of the Mogen and Gomco Clamps in Combination with Dorsal Penile Nerve Block in Minimizing the Pain in Neonatal Circumcision. *Pediatrics* Vol. 103 No. 2 February 1, 1999
- Weismiller D. Techniques for Neonatal Circumcision. *UpToDate*. October 10, 2014.
- Plank R, et al. A Randomized Trial of Mogen Clamp versus Plastibell for Neonatal Male Circumcision in Botswana. *J Acquir Immune Defic Syndr*. 2013 Apr 15; 62(5): e131–e137.
- Bowa K, et al. A Controlled Trial of Three Methods for Neonatal Circumcision in Lusaka, Zambia. *Journal of Acquired Immune Deficiency Syndromes*. Issue: Volume 62(1), 1 January 2013, p e1–e6
- Sinkey RG, Eschenbacher MA, Walsh PM, Doerger RG, Lambers DS, Sibai BM, Habli MA. The GoMo study: a randomized clinical trial assessing neonatal pain with Gomco vs Mogen clamp circumcision. *Am J Obstet Gynecol*. 2015 Mar 17. pii: S0002-9378(15)00249-5.
- Pippi Salle JL, Jesus LE, Lorenzo AJ, Romão RL, Figueroa VH, Bägli DJ, Reda E, Koyle MA, Farhat WA. Glans amputation during routine neonatal circumcision: mechanism of injury and strategy for prevention. *J Pediatr Urol*. 2013 Dec;9(6 Pt A):763-8.

- Lander J, Brady-Fryer B, Metcalfe JB, et al. Comparison of ring block, dorsal penile nerve block, and topical anesthesia for neonatal circumcision: a randomized controlled trial. *JAMA*. 1997;278(24):2157.
- Stevens B1, Yamada J, Lee GY, Ohlsson A. Sucrose for analgesia in newborn infants undergoing painful procedures. *Cochrane Database Syst Rev*. 2013 Jan 31

Simulation

and

Question and Answer Session

Thank You and Go Blue!