Chapter 5 Evolution of Circumcision Methods: Not "Just a Snip"

Hugh Young

Abstract A survey of circumcision methods and instruments is presented from an evolutionary perspective. Instruments for circumcising have evolved, but not in any coherent or consistent manner. Nor, after more than 4,000 years, has any consistent ("best") method emerged for circumcising. This underlines fundamental problems with the operation. The instruments have been fetishized along with the operation.

Keywords Instruments • Circumcision devices • Bible • Spear • Knife • Superincision • Dorsal slit • Accu-circ • Milah • Periah • Metzitzah • Scalpel • Gomco • Mogen clamp • Plastibell • Fistula • Necrosis

All my means are sane, my motive and my object mad. Herman Melville, Moby Dick.

5.1 Introduction

Machines evolve. They are intelligently designed, but artificially selected by commercial pressures and feedback from users to makers. Unlike living organisms, modifications made during the lifetime of one machine may be incorporated into the next generation of machines, in a kind of mechanistic Lamarckism. Thus, over time, successive generations of machines become more fit for their purposes and, depending on commercial factors, more durable, longer lasting, efficient, easy to use, etc.

The evolution of circumcision devices contrasts sharply with that of some household items

1. The hurricane lantern is said to be unchanged since 1840—certainly since 1898. It quickly became as good as it could get, readily manufactured by pressing and spinning, light, sturdy, simple, and doing what it's meant to—giving light and resisting wind.

H. Young (⊠)

Pukerua Bay, New Zealand e-mail: hugh@buzz.net.nz

¹ A picture of an 1898 hurricane lantern is at http://www.lanternnet.com/faqs.htm accessed July 9, 2010.

2. Scissors have changed but once, from sprung shears to pivoted crossover blades, perhaps in the first century CE.² Shears continue in specialized applications, such as gardening and shearing sheep.

3. The car door handle has progressed steadily in one direction, from a turning handle screwed on, similar to a house door handle, towards being flush with the door, for safety and for streamlining. The gradual change tracked user familiarity: while present designs seem obvious today, they would have baffled and frustrated drivers and passengers presented with them ab initio.

The evolution of circumcision devices, on the other hand, far from being any kind of steady progress, has been intermittent, inconsistent, and sometimes retrograde:

- 1. Vacillating between straight-line clamps and circular crushing.
- 2. Tending from shields that were removed immediately to clamps that remained for days—with a retrograde move in the Accu-circ, back to shielding, clamping, and a circular chop, with immediate removal.
- 3. From re-usable to disposable, but not necessarily to non-reusable (self-destroying).

I argue that the reason for this is fundamental problems with circumcision itself, problems that those who want to mechanize the operation have acknowledged only partially and intermittently.

5.2 History

Proponents of circumcision are fond of referring to its great antiquity, as if that somehow proved its worth.

Tribal circumcision is of unknown antiquity. The commonest method today is to pull out the foreskin and chop with a spear or slice with a knife against some hard substrate. Nelson Mandela of the Xhosa reports the first method, Brian Morris describes the second among the Maasai (Mandela et al. 1995; Morris 2010). The terror and pain of this seems to be part of its appeal (to the adults). In the Philippines and Eastern Polynesia, the practice was superincision (at least until the missionaries arrived), the hard substrate having been placed under only the upper integument of the foreskin and a dorsal slit made from the sulcus to the tip.

The first record of a circumcision instrument is from the Bible:

So Joshua made flint knives and circumcised the Israelites at the Hill of Foreskins. —Joshua 5:3

² "Among the earliest surviving shears is a pair, Egyptian in origin, attributed to the Third Century B.C...." ... "Sir Flinders Petrie ascribes the development of cross-bladed shears [with a center pivot] to the First Century" (Wiss 1948).

The Jewish method was codified in the Babylonian Talmud (Nedarim 31) c. 500 CE:

The proper way to perform the Mitzvah of Milah is to cut the foreskin with an iron knife and afterwards to separate the skin of the Periah with the nails and to pull it back to this side and that side (And not cut the skin together with the foreskin), and after that is done The Mohel has to suck the blood from the cut with his mouth (The Metzitza) (Yitzchak 2010).

"The skin of the Periah" apparently refers to the inner mucosa.

Traditional Jewish circumcision introduced two instruments, the *izmel* (Heb. scalpel) and the *barzel* (Heb. iron), sometimes called a *mogen* (Heb. shield).³

The izmel is a double-bladed knife, to ensure that a nervous mohel cannot choose the wrong side and thereby hurt the baby elsewhere than intended. (One might think that the wrong side could be made distinctive, and thereby remove the greater risk of cutting some other part of the baby or the mohel himself with the back blade.) Some circumcision kits include a whetstone to ensure that both blades are as sharp as possible.

The barzel is a slotted, flat metal shield to protect the glans, which it may or may not do, depending on the glans' size and conformation. The foreskin is pulled out—tearing it from the glans if that has not been done already—and the barzel slid across it, then the iszmel slices the foreskin off, distal to the barzel. In some extant examples, the slot is so narrow a knife would hardly be needed.

In the late 19th century, when non-religious circumcision of adults became a commonplace, Sir Frederick Treves used scissors (Dunsmuir and Gordon 1999).

[The next section is greatly in debt to an essay by Grossman (Grossman 1982).] The problem with cutting without clamping is how to keep an even tension on the foreskin to give a straight cut. Grossman points out that, as the cut proceeds, the same amount of tension is concentrated in less and less skin. "so the incision at

the frenulum was often deeper and uneven".4

For that reason, surgeons began using bone forceps in an attempt to isolate the glans and give hemostasis. In Paris, Doyen used a lockable hemostat-like clamp he called an écraseur (crusher).⁵

The first specialized instrument for secular circumcision seems to have been the circumcision forceps invented by a Dr. Moskovich in 1920, apparently for adult circumcision. The blades of a locking hemostat are expanded into two flattened, radially grooved rings with seven notches each. They look as though they should be used to blow bubbles.

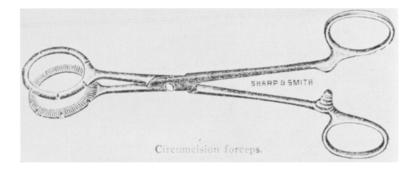
³ Devices mentioned in this article may be seen at http://www.circumstitions.com/methods.html.

⁴ Ibid, p. 29.

⁵ Dunsmuir and Gordon, loc. innom.

⁶ Grossman, p. 17.

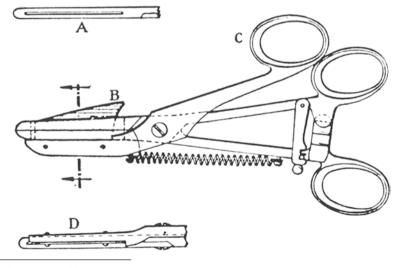
T2 H. Young



5.2.1 Circumcision Forceps

The top ring was introduced into the preputial cavity–somehow–and the foreskin fanned out between the two rings, which were then locked together. After cutting round the outside, seven sutures could be made in the notches. It had the obvious problem of where to put the foreskin at the place where the forceps met the rings. The rings also left a collar of skin round the glans. Less obviously, it could not apply much pressure over so large an area, but it was the first circumcision device to acknowledge that the prepuce is more or less circular.

The Harris Clamp of 1932 certainly did not. ⁷ Like an elaborate pair of scissors, but with three thumbholes, it suggests three thumbs were needed to work it. The first two lock a flat clamp together, then the third jaw drives an angled blade up through aligned narrow slits in both jaws of the clamp, somewhat reminiscent of a guillotine. A problem is that the blade grows blunt with repeated use.



⁷ Grossman, p. 29.

5.2.2 Harris Clamp

In 1934, Dr Hiram "Inch" Yellen and Aaron Goldstein added leverage to the circumcision forceps.

The Gomco clamp (from "Goldstein Manufacturing Company") was based on the tyre-lever used for Model T Fords, according to Julian Wan's sycophantic history of the device (Wan 2002). A metal bell is placed over the glans (requiring a slit in the foreskin first) and a flat plate with a hole in it is placed over both. Then both are brought up through the hole by a lever whose far end is screwed toward the plate to apply circular crushing and fusing force (of 8,000–20,000 pounds, according to Wan). The fulcrum of the lever and the plate is a low post or posts (see the Tomlinson modification below) on the plate, mating with a hole or holes on the underside of the lever. A crossbar through the shaft of the bell seats in two depressions in a notch on the lever transmitting the tension down the shaft to the bell. The Gomco leaves a characteristic dark line at the excision scar. Lowenstein says its disadvantages are that "it involves more parts, requires more steps in the procedure, and it takes more time." (Lowenstein 1997) Under that enormous pressure and prolonged use, a groove wears in the bell, making it ineffective.

Grossman adds:

The bell has been found to develop grooves and nicks following repeated use with the surgical blades. There have been reports of the bell breaking....A ring of metal breaks off and is left in the prepucial cavity and the clamp is rendered useless.⁸

Grossman's concern for the *clamp* is touching-the *baby* doesn't much like it either.

There have also been reports of glans injury as a result of the scalpel cutting through the bell.⁹

The clamp is made in a set with different-sized bells and plates and there is a danger of mixing parts of different sizes. In 2001, the FDA issued a warning against clamp injuries caused by this mismatch. (Reuters 2001) In 2009, Dr David Tomlinson produced a version intended to reduce this risk by adding:

- Coded holes in the lever and matching posts on the plate (one size with a single hole and post, one with two close together, one with two further apart), and
- differently sized shafts on the ring, matched to differently sized notches on the lever (Tomlinson et al. 2009).

The Gomco can obviously not be left on the penis; in fact, it is removed as soon as the skin is cut off, giving a risk of bleeding.

The Nutech Clamp, invented by Rabbi Harry Bronstein, is much bigger and heavier, a long lockable lever replacing the screw. ¹⁰

⁸ Grossman p. 19.

⁹ See footnote 8

¹⁰ Grossman, p. 24.

A more obvious descendent of the Gomco is the Circumstat, invented by Rabbi Irving Grossman in 1962, with a cam replacing the screw, apparently quicker and simpler.¹¹

Even simpler was the Tibone clamp of 1944, operating like a G-clamp in reverse, to pull the bell and crush the foreskin into the sharp-edged hole. This lost the leverage provided by the arm of the Gomco, and was more awkward to fit. Also, says Grossman, the side arm of the C was too close to the bell, and got in the way of the scalpel. (One would have thought that was easy to fix). The device never gained any popularity. A similar device, the Winkelman clamp, invented in 1935, has a wingnut instead of the Tibone's knurled nut. It was still in use in 2011.

Another variant on the Gomco, again lacking leverage, was the Improved Bloodless Circumcision Clamp invented by a Dr. H. O. Maryan in 1954. ¹⁴ This has three interchangeable bells and three corresponding holes in the base, and supports the screw on a tiny lintel, like an early printing press, one that pulls instead of pushing, at one of three positions over the appropriate hole.

The Turner Clamp of 1952 is similar, but operates in the reverse direction, the bell crushing the prepuce down on the aperture. ¹⁵ It also has three interchangeable bells, but all operating through the same hole, into three correspondingly sized inserts. Both the Turner and the Bloodless have the problem of the Tibone twice over, the supports of the bell getting in the way of the scalpel on both sides. Neither eclipsed the Gomco.

A cross between the Circumcision Forceps and the Gomco was the Preputome, invented in 1945 by a Brooklyn doctor called Al Akl. ¹⁶ It was not actually a preputome because it did not cut, but actually a "prepustat." With an olive-shaped bell as one jaw of a hemostat pressing into a ring on the other, it looks as though it should be used to pit olives. It thoughtfully provided a hole through the "olive" through which the baby could urinate on the doctor. Since the bell pressed the glans downward, it could wedge some of the corona against the ring as the clamp was closed, allowing it to be cut along with the foreskin. The Preputome never became popular.

Flat clamping continued with the Leff Clamp, invented in 1950, which looked and worked like a large paper clip, used in conjunction with a barzel.¹⁷

It led to the first incarnation of the Sheldon Clamp, in which the spring was augmented by a screw in order to achieve haemostasis. With a slot in the clamp for the scalpel, this has the obvious problem of awkwardness in making the cut, but

¹¹ Grossman, p. 21.

¹² Grossman, p. 24.

¹³ Dunsmuir and Gordon, loc. innom.

¹⁴ Grossman, p. 23.

¹⁵ Grossman, p. 22.

¹⁶ Grossman, p. 20.

¹⁷ Grossman, p. 30.

¹⁸ Grossman, p. 31.

apparently for Sheldon, the problem was not enough pressure, and the next version applied pressure with leverage (Gluckman et al. 1995). The design seems, simply unfortunate, making it quite hard not to capture the glans, difficult to make a clean straight cut through the hole in the top, and—though this is a mixed curse—impossible to give a "tight" (close to the glans) cut. Except that Sheldon seems to have taken the idea of "jaws" and "biting" very literally, it's hard to understand how this ever left the drawing-board. Its lever action was similar to a Vise-grip clamp.

W. G. Rathmann's instrument for female genital cutting *was* a modified Visegrip (Rathmann 1959). It crushed the clitoral prepuce between two heart-shaped jaws, and the prepuce was cut around the inner outline. A flat shield on the lower jaw protected the clitoris. (This was the only instrument I found specifically for female cutting. The photographs suggest it was used only on adults.)

In 1953, a Texas physician called Kantor mounted a hemostat behind a bisected barzel in a device that looks like a guitar. ¹⁹ Grossman points out that, with the Kantor, linear cuts result in crushed "dog ears" at the front and back of the penis, as with all linear devices.

In 1954, Rabbi Bronstein, who'd previously invented the annular, locking Nutech clamp, invented the Mogen clamp. ²⁰ It resembles a barzel, but one whose two blades are hinged together at one end, and brought together at the other with a cam. This is a step backward to straight-line cutting, but mohelim like it because it's quick and resembles the traditional method. The glans, below and completely out of sight of the operator, can be trapped in the locked slit and, as Grossman points out, the meatal lips often project from the glans and into the clamp.

In 2010 in New York, a boy was awarded \$10 million against Mogen Circumcision Instruments, Ltd. in settlement of a claim for partial amputation of his penis, the second such case.²¹ As a result, the Mogen company went out of business, but the Mogen clamp was still being used and recommended in 2013 (Bowa et al. 2013, Plank et al. 2013).

A doctor called Melges invented the plastic straight-line Glansguard as late as 1972. ²² It resembled a miniature modern kitchen plastic-bag sealer and had a built in knife. It did *not* guard the glans, especially if it was put on upside down, hence a clear message on one side, "This Side Up."

The first of the tourniquet devices that dealt with the foreskin by necrosis was the reusable metal Ross ring, developed in 1939 (Anonymous 2010). In five sizes and made of metal (sold in sets in a handsome art deco walnut case), it included one groove for the ligature and one to catch the scalpel as it cut off the foreskin. It had a tiny handle distal to the glans, on an angle, perhaps to place the ring at an angle with respect to the axis of the penis and follow the line of the sulcus. An enclosed leaflet says the device is to be left in place for 24–72 h.

¹⁹ Grossman, p. 32

²⁰ Grossman, p. 33.

²¹ L.G. v. Mogen Circumcision Instruments, Ltd., Civil Action File No. CV06-5864, United States District Court for the Eastern District of New York.

²² Grossman, p. 34.

5.3 Disposable Devices

Come the 1950s, plastics and the age of disposables, and the Plastibell–developed out of the Ross Ring in 1950—became the method of choice.²³ Like the Gomco, it requires a dorsal slit and tearing of the foreskin from the glans before it can be fitted. Then the foreskin is pulled up over the bell, and a ligature tied to crush it into the groove. Everything distal to the ligature dies and, to stop this from upsetting parents too much, the foreskin may be cut off first.

One risk of the Plastibell is that the ring may slip down the penis and become trapped. Another is that it can block the urethra. A death occurred in Ontario, Canada, from this cause (Paediatric Death Review Committee 2007). It can also lead to some horrendous complications, including urethral fistulae and necrosis of the glans (Bode et al. 2010; Samad et al. 2010).

From the Gomco almost to the present day, the penis is treated as if its cross-section at the sulcus is a perfect circle and no provision is made for the frenulum; the membrane connecting foreskin and glans, and often the last remnant of Taylor's ridged band left after circumcision, hence of significant erogenous value (Taylor et al. 1996).

The Circumcision Centre in the UK says the frenulum is not touched by shield methods, such as the barzel (Circumcision Centre 2010).

It says the forceps-guided method "does not cut the frenulum but it can be removed before or after the circumcision if desired."

In sleeve resection, "The glans and frenulum are not protected. The frenulum can be included in the main cutting or can be cut separately if desired."

With the Gomco, "The glans and frenulum are protected. The frenulum can be removed before or after the circumcision if required." Desired and required by whom it does not say.

With the Plastibell, "The glans and frenulum are protected by the bell. The frenulum will never be cut when using the Plastibell."

The claim that circumcision reduces the risk of HIV/AIDS has brought a flurry of invention in the circumcision industry. The emphasis has been on plastic construction, adult sizes, simplicity, disposability, and low cost. Most of these devices originate from South East Asia and have not been subjected to Western regulation or testing.

The Tara KLamp from Malaysia and the Smart Klamp are very similar (Anonymous 2010a, b). Both involve pulling the foreskin up over a conical bell with an open end for urination, then a ring-shaped clamp is pushed down over the outside and held in place by leverage and locking catches, to crush the prepuce by leverage.

A trial comparing the Tara KLamp (TK) with forceps found almost 40% (N = 34) of those circumcised with the TK reported adverse effects, including infection, delayed wound healing, swelling, and problems with penis appearance (Lagarde et al. 2009).

²³ Grossman, p. 25.

Ali's clamp is similar to the TK, but crushes at a tilt, to follow the line of the sulcus more closely—the only device to do so (Anonymous 2010).

The Ismael clamp is similar to the TK, but uses a screw to apply pressure instead of levers (Anonymous 2010). It claims to be "readily removable." That would make it re-usable, which introduces the risk of cross-infection.

The Sunathrone uses a separate plastic device like a jar-opener to squeeze a divided ring onto the foreskin over a conical bell similar to those of the Tara and the Ismael. The ring then locks on like a handcuff (Sunathrone 2010).

The Chinese Shangring has a sharp-edged outer ring, which crushes the foreskin into the soft insert of the inner ring (Weihai Zhenxi Medical Equipment Corporation 2010). It provides no protection to the glans when the foreskin is trimmed off. It comes in 22 different sizes!

The Korean–Chinese Zhenxi ring works differently, though it looks similar (Anonymous 2010). It claims it does not require an incision or suture, and "features a tying type of simple operation." It comes in 13 sizes, 7 for babies, 6 for adults.

The Accu-circ, announced in 2006, is a radical departure from all previous instruments, though Dr. David Tomlinson developed it out of the Plastibell (Anonymous 2010). An intermediate stage, which he called an improved Plastibell, included a small disposable blade mounted at the top of the handle to trim the foreskin (Tomlinson et al. 2009).

The Accu-circ, which Tomlinson optimistically calls an atraumatic circumcision device, is disposable, self-contained, and does everything. It reverts from crushing and necrosis to clamping and cutting. Its action is annular, but still assumes the penis is circular, and makes no provision for the frenulum. It resembles a cork puller. Two hemostats are provided to pull the foreskin away from the glans. A probe on one end of the multipurpose tool is used to complete the lysis, then a broken ring on the other end is twirled into the foreskin without the need of a dorsal slit, and the "shielding ring" slid down the probe onto the circular "chopping block" (not their term) to hold the foreskin in place. A video on the Accu-circ website shows the acroposthion hanging out the sides of the clamp, with the potential of impeding the cut. The "cork-puller" is then slid down the probe, where it locks, enclosing the whole penis. Closing the handle then brings down the blade past the clamping ring, through the foreskin, and onto the "block." Like the Glansguard, it is a blind procedure with no guarantee that the glans will stay out of harm's way. Then,

- 1. If it fails to cut completely, the operator has no way of seeing that, and is at risk of pulling the instrument off, and a random amount of the rest of the penis with it
- 2. If the operator does see that in time, there appears to be no way to dismantle the instrument simply and safely. (If there is, the Accu-circ is likely to be reused in poor countries, with consequent risk of cross-infection.)

What happens to the frenulum with the Accu-circ is very much a matter of chance, depending on what the blunt probe did, and where the frenulum ends up,

between the inner ring and the outer. This raises a grave risk of hemorrhage from the frenular arteriole, and no way to reach it if the device fails to re-open. BP's oil well at the bottom of the Gulf of Mexico springs to mind.

The Accu-circ has been cleared by the Food and Drug Administration for use in the US, on babies up to 10 days old, on the basis that it is "substantially equivalent ... to legally marketed ... devices" but in fact it is radically different.²⁴ It is the only one that:

- conceals the penis,
- puts a chopping block inside the foreskin,
- grasps the chopping block through the foreskin,
- cuts in a circle,
- chops instead of slicing.

Tomlinson has treated circumcision as if it were a kitchen chore like crushing garlic, and invented a device to do it like that. But, the issues involved in crushing garlic well or badly are of much less moment than those involved in circumcision.

Since this paper was presented, a new device, the PrePex, has come on the market with much publicity. Like the Plastibell, the PrePex crushes the foreskin into a grooved ring and is left on while the foreskin, or what has not been trimmed away, necroses. Like the Plastibell, it is disposable. It is not clear that it is *not* re-usable. Instead of a ligature, it uses an elastic ring, like the Elastrator used for castrating sheep and docking their tails. It is so far made only in adult sizes. It claims to have FDA approval and to be bloodless, painless, and non-surgical. If those claims are true, it can no longer be said that "adult circumcision is much more painful, complicated, and dangerous than infant circumcision" and that, therefore, males should be circumcised before they can give—or withhold—their consent.

5.4 Summary of Methods

Here is a timeline of the invention of methods of circumcision, based on the shape of the cut and disposability of the instrument. (Linear methods all use reusable instruments.)

Linear (Re-usable)	Annular Re-usable	Annular Disposable
BCE Flint knife		
CE Izmel		
CE Barzel		
CE Pocket knife		
18XX Bone forceps		
1903 Scissors		
1920 Écraseur Écraseur	1920 Circumcision forceps	

(continued)

²⁴ http://www.accucirc.com/documents/AccuCirc_501k.pdf (accessed January13, 2011).

(continued)		
1932 Harris clamp		
	1934 Gomco clamp	
	1939 Ross ring	
	19XX Nutech clamp	
	1944 Tibone clamp	
	1945 Preputome	
1950 Leff clamp		1950 Plastibell
	1952 Turner clamp	
1953 Sheldon clamp (1)		
195X Sheldon clamp (2)		
1954 Kantor Clamp	1954 Improved bloodless	
1954 Mogen clamp		
	1962 Circumstat	
1972 Glans guard		
		1995 Tara KLamp
		199X Smart clamp
		199X Ismail clamp
		199X Sunathrone
		2003 Shang ring
		2003 Zhengi rings
		200X? Ali's clamp
		2004 Kirve clamp
		2006 Accu-circ
	2009 Improved gomco	2009 Improved plastibell
		2011 Pre Pex

The only consistent development is that all recent devices are disposable, but that will have as much to do with modern medical practice and plastics as with circumcision.

The devices may also be sorted according to what they do:

Cutting	Holding and cutting (brief crushing for hemostasis)	Holding (brief crushing for hemostasis)	Crushing (prolonged for necrosis)
BCE Flint knife CE Izmel		CE Barzel	
CE Pocket knife 18XX Scalpel 1903 Scissors	XX Scalpel	18XX Bone forceps	
1903 Scissors		1920 Écraseur 1920 circumcision forceps	
	1932 Harris Clamp	1934 Gomco Clamp	1020 P
		19XX Nutech clamp 1944 Tibone clamp 1945 Preputome	1939 Ross ring

(continued)

(continued)

Cutting	Holding and cutting (brief crushing for	Holding (brief crushing for	Crushing (prolonged for necrosis)
	hemostasis)	hemostasis)	
		1950 Leff clamp	1950 Plastibell
		1952 Turner clamp	
		1953 Sheldon clamp (1) 195X Sheldon clamp	
	(2)		
		1954 Kantor clamp 1954 Improved bloodless 1954 Mogen clamp	
		1962 Circumstat	
	1972 Glansguard		

1995 Tara KLamp 199X Smart clamp 199X Ismail clamp 199X Sunathrone 2003 Zhengi rings 2003 Shang ring 200X? Ali's clamp

plastibell 2011 Pre Pex

2009 Improved Gomco 2009 Improved

Unlike the hurricane lantern, they did not find the best method and stick with it; unlike the scissors, there was no great leap forward; unlike the car door handle, there was no smooth progression, from linear to annular to disposable, Instead, inventors have jumped back and forth, apparently having some nostalgia for the linear barzel, and perhaps some dislike of the necrosis of the Plastibell.

2006 Accu-circ

It took the designers of the devices thousands of years to work out how to compress in a circle. They still have not accommodated the frenulum because the frenulum intractably complicates the cutting. And though it is common knowledge that the frenulum, the last remnant of Taylor's ridged band, is the male G-spot, circumcisers have not yet formulated a consistent policy towards it and hence their devices do not treat it consistently.

What this exposes is that no way of circumcising is without problems because the foreskin has not evolved in a way that lends itself to being removed.

The best method of circumcision is not doing it.—Sarah Strandjord, MD, FAAP

5.5 Instruments and Fetishism

The various circumcising devices are often bright and glittering—the kind of thing a jackdaw would use to decorate its nest. They are also attractive to circumcision fetishists. According to the Encyclopedia of Psychiatric Disorders:

Fetishism is a form of paraphilia, a disorder that is characterized by recurrent intense sexual urges and sexually arousing fantasies generally involving non-human objects, the suffering or humiliation of oneself or one's partner (not merely simulated), or children or other non-consenting persons. The essential feature of fetishism is recurrent intense sexual urges and sexually arousing fantasies involving specific objects. While any object may become a fetish, the distinguishing feature is its connection with sex or sexual gratification (Fetishism 2010).

A circumcision fetishist, or circumfetishist for short, is a person who gets sexual pleasure from the act of circumcision.

Women may fetishize apparently non-sexual objects, such as large structures (Simpson 2010), though their attraction seems more like falling in love than a purely sexual involvement. Circumfetishists appear to be virtually all men—though being circumcised by a scornful woman is a common circumfetishist fantasy.

Circumfetishism should be distinguished from just eroticizing the circumcised penis (accucullophilia), as many women and gay men may do, just from familiarity (and unfamiliarity with the intact version), and then it should be considered in the context of apotemnophilia (the wish to be an amputee) and acrotomophilia (sexual interest in amputees).

Circumfetishism may involve fantasies of power and control, which may be ritualistically acted out. They may be active (sadistic) fantasies of circumcising, or passive (masochistic) fantasies of being circumcised, and the rituals, when they occur, of course involve both. Circumfetishists have several websites (Anonymous 2010; Anonymous 2010). Until June 2010, the Circlist website (Circlist 2010) linked to a Google discussion group that said

Circlist has always permitted, and will continue to permit, circumcision-related fetish/ sexual postings/materials, straight, gay, or otherwise. Individuals may use CIRCLIST to make contact with one another, including for sexual purposes. The list is not just a medical interest list, but rather all things circumcision, including circ-fetish, sexual info, medical info and a place to meet up with fellow circumcision enthusiasts and proponents.

Circumsexuals held the first International Circumsexual Symposium, in Washington, DC, in June 2005, and another in Las Vegas in May 2010.

Circumfetishist "Ben Winkie" blogs about it. ("Interests: Being masturbated whilst circumcision is being discussed. Watching circumcisions with others. Etc.") and features a Gomco and a Mogen clamp on his avatar (Blogger Ben Winkie 2010).

The extent of circumfetishism among doctors and others who perform infant circumcisions is unknown. It warrants further research.

Hugh Young, B.Sc., is a retired broadcaster and editor with a science background. He has published two dictionaries, of Solomon Islands Pijin and New Zealand Maori place name pronunciation (oral, now online at http://ngaingoa.notlong.com). He has presented three papers at Genital Integrity Symposia, on the rise and fall of circumcision in New Zealand (with Ken McGrath), on circumcision as a memeplex, and on the foreskin and circumcision in popular media, subsequently published. For more than 14 years he has maintained the Intactivism Pages, www.circumstitions.com, a pro-intact website. Pukerua Bay, New Zealand.

Acknowledgments Thanks to Marilyn Milos for scanning the Grossman essay and sending it to me, to my husband, Tim, for his unfailing support, and to Circlist for alerting me to the existence of the Ross rings, and whose obsessive interest in the details of the operation saved me from having to think about it too much.

References

Anonymous (2010) Ross circumcision ring. Circlist http://www.circlist.com/instrstechs/rossring. html Accessed 8 July 2010

Anonymous (2010) Alisklamp: Advanced technology for perfect male circumcision http://www.a lisklamp.com/english/sorularla_alisklamp.html Accessed 22 July 2010

Anonymous (2010) Why Use Isamail Clamp http://www.ismailclamp.com/index_files/Whyuseis mailclamp.htm)Accessed 22 July 2010

Anonymous (2010) The Shangring circumcision device http://medgadget.com/archives/2008/08/the_shangring_circumcision_device.html Accessed 22 July 2010

Anonymous (2010) Accu-Circ single-action circumcision device http://www.accucirc.com Accessed 22 July 2010

Anonymous (2010) Inter-circ http://groups.yahoo.com/group/Inter-Circ Accessed 24 July 2010

Anonymous (2010) Roundheads UK http://uk.groups.yahoo.com/group/RoundHeads/ Accessed 24 July 2010

Anonymous (2010) Circumcision images http://www.icon.co.za/~hugot/circum/circum.htm Accessed 22 July 2010 (circlist)

Anonymous (2010) Circlist http://www.circlist.com/news.html Accessed 24 July 2010

Anonymous (2010a) Tara KLamp for non-invasive male circumcision http://www.cirp.org/library/procedure/tara-klamp/booklet.doc Accessed 20 July 2010

Anonymous (2010b) The SmartKlamp® a new invention http://www.smartcircumcision.com/smartklamp.html Accessed 22 July 2010

Ben Winkie (2010) Blogger Ben Winkie http://www.blogger.com/profile/11085999452260195794 Accessed 22 July 2010

Bode CO, Ikhisemojie S, Ademuyiwa AO (2010) Penile injuries from proximal migration of the Plastibell circumcision ring. J Ped Urol 6:23–27

Bowa K et al. (2013) A controlled trial of three methods for neonatal circumcision in Lusaka, Zambia. JAIDS, vol 62(1), pp e1-6. http://journals.lww.com/jaids/Fulltext/2013/01010/A_Controlled_Trial_of_Three_Methods_for_Neonatal.12.aspx Accessed April 3,2013

Circumcision Centre (2010) Circumcision methods and techniques http://www.circumcisioncentre.co.uk/circumcision-methods-techniques.html?Itemid=55 Accessed 20 July 2010

Dunsmuir WD, Gordon EM (1999) The history of circumcision (Winkelman) BJU International, vol 83(1), pp 1–12 http://www.cirp.org/library/history/dunsmuir1/ Accessed 19 July 2010

Fetishism (2010) Encyclopedia of mental disorders http://www.minddisorders.com/Del-Fi/Fetishism.html Accessed 22 July 2010

Gluckman G et al (1995) Newborn penile amputation during circumcision and successful reattachment, vol 153. BJU, South Carolina, 778–779

Grossman E (1982) The evolution of circumcision technique. In: Circumcision: a pictorial atlas of its history, instrument development and operating techniques. Todd & Honeywell, Great Neck, pp 17–34

Lagarde E, Taljaard D, Puren A, Auvert B (2009) High rate of adverse events following circumcision of young male adults with the Tara KLamp technique: a randomized trial in South Africa. S Afr Med J 99(3):163–169

Lowenstein VH (1997) Circumcision. In: Varney H (ed) Varney's midwifery, 3rd edn. Mass: Jones and Bartlett, Sudbury

Mandela N (1995) Long walk to freedom. Little Brown & Co (unabridged editions only), pp 30–36

- Morris B (2010) Circumcision—what caused many cultures to ritually remove the foreskin? http://www.circinfo.net/what_caused_many_cultures_to_remove_it.html) Accessed 17 July 2010
- Paediatric Death Review Committee (2007) Office of the chief coroner of Ontario. Circumcision: a minor procedure? paed child health, vol 12(4) http://www.pulsus.com/Paeds/12_04/Pdf/zwol_ ed.pdf Accessed 20 July 2010
- Plank RM et al (2013) A randomized trial of mogen clamp versus plastibell for neonatal male circumcision in botswana. JAIDS vol 62(5), pp e131–137 http://journals.lww.com/jaids/Fulltext/2013/04150/A_Randomized_Trial_of_Mogen_Clamp_Versus.14.aspx Accessed 3 April 2013
- Rathmann WG (1959) Female circumcision: indications and a new technique, vol XX. GP, pp 115–120
- Reuters (2001) US warns of circumcision clamp injury risk. Reuters Health
- Samad A, Khanzada TW, Kumar B (2010) Plastibell circumcision: a minor surgical of major importance. J Ped Urol 6:28–31
- Simpson A (2010) Woman with objects fetish marries Eiffel Tower. The Telegraph, London, England http://www.telegraph.co.uk/news/newstopics/howaboutthat/2074301/Woman-with-objects-fetish-marries-Eiffel-Tower.html Accessed 22 July 2010
- Sunathrone BM Technologies Sdn. Bhd. Sunathrone (2010) Disposable circumcision device http://www.sunathrone.com/home.htm Accessed 22 July 2010
- Taylor JP, Lockwood AP, Taylor AJ (1996) The prepuce: specialized mucosa of the penis and its loss to circumcision, vol 77. BJU, South Carolina, pp 211–295 http://www.cirp.org/library/ anatomy/taylor/ Accessed 20 July 2010
- Tomlinson D, Shelton L, Caldamone A (2009) An improved device for male circumcision: a modified Yellen style (Gomco) circumcision clamp (poster presentation) 5th IAS conference on AIDS pathogenesis, treatment and prevention, pp 19–22 http://www.ias2009.org/pag/Abstracts.aspx?AID=1397 Accessed 24 July 2010
- Tomlinson D, Shelton L, Caldamone A (2009) An improved device for male circumcision: a modified Ross style (Plastibell) tourniquet shielding ring. 5th IAS Conference on AIDS Pathenogenesis, treatment and prevention, 2009 (poster presentation) (accessed July 20 2010 at http://www.ias2009.org/pag/Abstracts.aspx?AID=1398)
- Wan J (2002) GOMCO circumcision clamp; an enduring and unexpected success. Urology 59(5):790–794
- Weihai Zhenxi Medical Equipment Corporation (2010) Introduction to company and product http://zhenxi-korea.com/index_en_intr.htm Accessed 22 July 2010
- Wiss JR (ed) (1948) A Story of Shears and Scissors. J Wiss & Sons, p 16 http://jwissandsons.com/ shears-scissors.pdf Accessed 3 April 2012
- Yitzchak BY (2010) What does halacha say? http://www.brityy.org/content.asp?dept=1017& article=617) Accessed 8 July 2010

Author Biography

Hugh Young BSc, is a retired broadcaster and editor with a science background. He has published two dictionaries, of Solomon Islands Pijin and New Zealand Maori place name pronunciation (oral, now online at http://nga-ingoa.notlong.com). He has presented three papers at Genital Integrity Symposia, on the rise and fall of circumcision in New Zealand (with Ken McGrath), on circumcision as a memeplex, and on the foreskin and circumcision in popular media, subsequently published. For more than 14 years he has maintained the Intactivism Pages, www.circumstitions.com, a pro-intact website. Pukerua Bay, New Zealand.