

# Journal of Health Psychology

<http://hpq.sagepub.com>

---

## **Male Circumcision: Pain, Trauma and Psychosexual Sequelae**

Gregory J Boyle, Ronald Goldman, J Steven Svoboda and Ephrem Fernandez  
*J Health Psychol* 2002; 7; 329

The online version of this article can be found at:  
<http://hpq.sagepub.com/cgi/content/abstract/7/3/329>

---

Published by:

 SAGE Publications

<http://www.sagepublications.com>

**Additional services and information for *Journal of Health Psychology* can be found at:**

**Email Alerts:** <http://hpq.sagepub.com/cgi/alerts>

**Subscriptions:** <http://hpq.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>

# Male Circumcision: Pain, Trauma and Psychosexual Sequelae

GREGORY J. BOYLE

*Bond University, Australia*

RONALD GOLDMAN

*Circumcision Resource Center, Boston, USA*

J. STEVEN SVOBODA

*Attorneys for the Rights of the Child, Berkeley, USA*

EPHREM FERNANDEZ

*Southern Methodist University, Dallas, USA*

GREGORY J. BOYLE, PhD (Melbourne & Delaware), is Professor of Psychology at Bond University. His research covers psychological, ethical and medico-legal issues pertaining to men's health issues. URL:

<http://www.bond.edu.au/hss/staff/gboyle.htm>.

RONALD GOLDMAN, PhD Psychologist, is Executive Director, Circumcision Resource Center, PO Box 232, Boston, Massachusetts 02133 USA. His research concerns the psychological aspects of circumcision. URL:

<http://www.circumcision.org>.

J. STEVEN SVOBODA, MA, JD, is Executive Director, Attorneys for the Rights of the Child. His research encompasses the legal, ethical and human rights implications of harmful procedures performed on children for non-medical reasons. URL: <http://www.arclaw.org>.

EPHREM FERNANDEZ, PhD, is Associate Professor of Psychology at Southern Methodist University and special faculty in clinical psychology at the University of Texas Southwestern Medical Center. His research focuses on cognitive-behavioral approaches to the management of chronic pain with special emphasis on emotional aspects of pain. URL:

<http://www2.smu.edu/psychology/faculty/fernandez.html>.

ACKNOWLEDGEMENTS. The authors acknowledge the contribution of George Hill, Executive Honorary Secretary, Doctors Opposing Circumcision, and librarian, Circumcision Information Resource Pages URL: <http://www.cirp.org>.

COMPETING INTERESTS: None declared.

ADDRESS. Correspondence should be directed to:

G. J. BOYLE, PhD, Department of Psychology, Bond University, Gold Coast, Queensland, 4229, Australia.

*Journal of Health Psychology*  
Copyright © 2002 SAGE Publications  
London, Thousand Oaks and New Delhi,  
[1359-1053(200205)7:3]  
Vol 7(3) 329-343; 023225

## Abstract

Infant male circumcision continues despite growing questions about its medical justification. As usually performed without analgesia or anaesthetic, circumcision is observably painful. It is likely that genital cutting has physical, sexual and psychological consequences too. Some studies link involuntary male circumcision with a range of negative emotions and even post-traumatic stress disorder (PTSD). Some circumcised men have described their current feelings in the language of violation, torture, mutilation and sexual assault. In view of the acute as well as long-term risks from circumcision and the legal liabilities that might arise, it is timely for health professionals and scientists to re-examine the evidence on this issue and participate in the debate about the advisability of this surgical procedure on unconsenting minors.

## Keywords

*child abuse, male circumcision, pain, sexual dysfunction, trauma*

## Background to circumcision

'TO CIRCUMCISE (from the Latin, "to cut around") means to cut off part or all of the foreskin of a penis, permanently exposing the normally covered glans . . .' (Boyd, 1998, p. 13). Circumcision involves the amputation of both layers of the foreskin, and is often performed on baby boys a few days after birth (Ritter & Denniston, 1996). The inner layer of the foreskin comprises thousands of erogenous nerve endings (Cold & McGrath, 1999; Cold & Taylor, 1999; Taylor, Lockwood, & Taylor, 1996).

Moses Maimónides (1135–1204), known as the 'Rambam', was a medieval Jewish rabbi, physician and philosopher who stated unequivocally that the real purpose of circumcision was to reduce sexual gratification. According to Maimónides (see 1963 translation: 609):

Similarly with regard to circumcision, one of the reasons for it is, in my opinion, the wish to bring about a decrease in sexual intercourse and a weakening of the organ in question, so that this activity be diminished and the organ be in as quiet a state as possible . . . In fact this commandment has not been prescribed with a view to perfecting what is defective congenitally, but to perfecting what is defective morally. The bodily pain caused to that member is the real purpose of circumcision. None of the activities necessary for the preservation of the individual is harmed thereby, nor is procreation rendered impossible, but violent concupiscence and lust that goes beyond what is needed are diminished. The fact that circumcision weakens the faculty of sexual excitement and sometimes perhaps diminishes the pleasure is indubitable. For if at birth this member has been made to bleed and has had its covering taken away from it, it must indubitably be weakened.

In the English-speaking world, circumcision was introduced as a medical procedure in the late-19th century (Hodges, 1997). Victorian notions about the 'ills of masturbation' influenced some physicians to endorse amputation of the erotogenic foreskin as 'preventative therapy' since circumcised boys could not use their foreskins for masturbation (Moscucci, 1996). Circumcision subsequently was accepted as a panacea for many conditions, including epilepsy, paralysis,

malnutrition, 'derangement of the digestive organs', chorea, convulsions, hysteria and other nervous disorders (Gollaher, 2000). In the ensuing decades, as each claimed benefit of circumcision was disputed, another would come to take its place (Hodges, 1997).

Various national medical associations have evaluated studies on therapeutic rationales for infant circumcision under standard surgical conditions and management (see, for example, Denniston, Hodges, & Milos, 1999). However, no national medical association anywhere in the world that has studied the issue recommends routine circumcision (American Academy of Pediatrics (AAP), 1999; Australasian Association of Paediatric Surgeons, 1996; Australian College of Paediatrics, 1996; British Medical Association, 1996; Canadian Paediatric Society, 1996). Recently, the American Medical Association (2000) has gone even further, confirming that infant circumcision is *non-therapeutic*. It is now generally acknowledged that any potential medical benefits of routine circumcision are outweighed by its risks and drawbacks (AAP, 1999).

Although approximately 80–85 percent of the world's adult males remain genitally intact (Lang, 1986; Wallerstein, 1985; Williams & Kapila, 1993), an estimated 650 million males alive today nevertheless have been circumcised (Hammond, 1999). In the United States alone, each year 1.2 million males are circumcised shortly after birth (National Center for Health Statistics, 1998). In addition, the social anthropological literature on ritual circumcision in non-western cultures indicates that circumcision of boys during late childhood also is commonplace (Gollaher, 2000).

Objections to circumcision have been articulated for several years (e.g. Wallerstein, 1980) with increasing concerns coming from the professional mental health community (e.g. Boyle, 2000; Goldman, 1997, 1998, 1999). There is also mounting anxiety about issues of legal liability (Boyle, Svoboda, Price, & Turner, 2000; Richards, 1996; Smith, 1998; Somerville, 2000; Svoboda, van Howe, & Dwyer, 2000; van Howe, Svoboda, Dwyer, & Price, 1999). Moreover, Giannetti (2000) has pointed to psychosexual sequelae that appear to go well beyond those acknowledged in the recent American Academy of Pediatrics (1999) policy statement. The present article recounts many of these concerns.

Evidence for both short- and long-term manifestations of circumcision are reviewed. Among the sequelae considered are pain, problems in sexual functioning and emotional distress or trauma—all factors that impact on men's psychosexual health and well-being.

### **Circumcision pain**

One of the fundamental issues that divides opinion on the practice of circumcision regards the presence or degree of pain. To address this issue, we turn to the concept of pain and the evidence for pain sensitivity in infants. As defined by scientists, pain is an unpleasant sensory experience associated with tissue damage (IASP, 1986). There is no doubt that circumcision entails observable pain and identifiable tissue damage (see joint statement of American Academy of Pediatrics and American Pain Society—American Academy of Pediatrics, 2001). The only matter of some interpretation is the infant's behavior during circumcision. As with adults, pain in infants is expressed in stereotypical ways involving vocalization, facial expression, body movements and autonomic activity. Analysing the vocalizations of 30 newborn males during circumcisions of varying levels of invasiveness, Porter, Miller and Marshall (1986) found that the invasiveness of the procedure was positively correlated with duration of crying, more pronounced peak fundamental frequencies, reduced harmonics and greater variability of the fundamental. Crying extended to a day after circumcision and was interrupted by greater periods of quiet when anaesthesia was provided (Dixon, Snyder, Holve, & Bromberger, 1984). It is also notable that adult listeners agreed on the urgency of these cries as a function of the intensity of the pain-producing stimulus. Levine and Gordon (1982) reviewed literature on the spectrographic analysis of pain-induced vocalizations (PIV) in infants and found remarkable similarity with the basic features of PIV in animals.

Despite the obvious unavailability of self-report, further evidence of pain has been demonstrated through observation of the facial expressions of infants undergoing circumcision. Regarded as the most definitive behavioral evidence of pain in the infant, it consists of a lowered brow, eyes squeezed shut, deepened

nasolabial furrow, opened mouth and a taut cupped tongue (Grunau, Johnston, & Craig, 1990). This expression closely resembles the adult facial expression of pain, but it occurs with even greater consistency in infants undergoing painful procedures such as circumcision.

Infants also evidence considerable autonomic arousal during noxious stimulation. Of course, this generalizes to other situations such as fear and frustration too. However, in combination with the facial and vocal evidence, such arousal is highly informative about the pain the infant is undergoing. For example, Porter, Porges and Marshall (1988) observed that vagal tone significantly declined during circumcision, a result which was paralleled by significant increases in pitch of the infant's cries. The further discovery that vagal tone prior to circumcision predicted physiological reactivity to subsequent stress leaves little doubt that circumcision is highly noxious to the infant.

With regard to motor behavior, infants tend to be a bit more limited than adults in responding to noxious stimuli (Tyler, 1988). This has occasionally been mistaken as an indication that infants experience less pain than adults. However, the infant's overall rigidity of the torso and limbs are indicative of pain (Johnston & Strada, 1986). With increasing age and post-natal maturation of the somatosensory system, there is greater motor responsiveness to pain-producing stimuli like circumcision.

Pain pathways are well developed late in gestation and neurochemical systems associated with pain transmission are functional (Anand & Hickey, 1987). Many scientists (e.g. Field, 1995; Fitzgerald, 1987) have stated that we should now safely assume that all viable newborns feel pain. What is more critical is how pain is modulated in infancy. Andrews and Fitzgerald (1997) have reviewed the neurobiological evidence suggesting that the relative immaturity of the infant's nervous system may raise excitability in the spinal cord. Thus, the system for modulation of pain signals appears to be less developed in infants and this may render them highly susceptible to pain during procedures such as circumcision (Fitzgerald, 1998). Moreover, cognitive coping strategies (Fernandez, 1986; Fernandez & Turk, 1989; Maiz & Fernandez, 2000) and other descending cortical influences postulated as part of the gate control theory of pain

(Melzack & Wall, 1965) evidently are far less developed in infancy than later in life.

The pain that is apparent in circumcised infants and is intensified by their lack of coping resources can have further ramifications. Prescott (1989) referred to the stress hormones triggered by intense pain and the adverse effects they may exert on brain development, sexual function and behavior. Anand and Scalzo (2000) postulated that severe pain during infancy may permanently and irreversibly alter neurological circuitry responsible for pain perception and memory. Hepper (1996) documented functioning memory prior to and immediately after birth. An adverse painful perinatal event, through a process of classical conditioning, may sensitize the infant to pain later in life (Chamberlain, 1989, 1995; Field, 1995; Jacobson, Nyberg, Gronbladh, Eklund, Bygdeman, Rydberg, 1990). Thus, Taddio, Katz, Ilersich and Koren (1997) found that circumcised boys displayed heightened physiological pain responses to vaccinations four to six months after circumcision suggestive of an infant analogue of post-traumatic stress disorder, as compared with genitally intact children.

### **Circumcision trauma**

A traumatic experience is defined in DSM-IV as the direct consequence of experiencing or witnessing of serious injury or threat to physical integrity that produces intense fear, helplessness or (in the case of children) agitation (American Psychiatric Association, 1994). The significant pain and distress described earlier is consistent with this definition. Moreover, the disturbance (e.g. physiological arousal, avoidant behaviour) qualifies for a diagnosis of acute stress disorder if it lasts at least two days or even a diagnosis of post-traumatic stress disorder (PTSD) if it lasts more than a month. Circumcision without anaesthesia constitutes a severely traumatic event in a child's life (Lander, Brady-Freyer, Metcalfe, Nazerali, & Muttit, 1997; Ramos & Boyle, 2001; Taddio et al., 1997). It is possible that the trauma of genital surgery might have long-lasting psychological effects (Anand & Scalzo, 2000; Bigelow, 1995; Jacobson & Bygdeman, 1998; Levy, 1945).

Van Howe reported that, 'Newborn males respond to circumcision with a marked

reduction in oxygenation during the procedure, a cortisol surge, decreased wakefulness, increased vagal tone, and less interactions with their environment following the procedure . . .' (1996: 431). Rhinehart (1999) in a report of clinical cases noted that the only response available to the infant is shock, wherein the central nervous system is overwhelmed by pain, followed by numbing, paralysis and dissociation. Possibly, dissociation of the traumatic experience and emotional pain may be employed by the infant as a psychological defence (Chu & Dill, 1990; Noyes, 1977; Rhinehart, 1999). While some babies have been described as being 'quiet' after circumcision, Rhinehart concluded that the observed stillness most likely represents a state of dissociation or shock in response to the overwhelming pain.

Consistent with the early reports of Anna Freud (1952), McFadyen (1998) observed psychological trauma in her son following circumcision. This is sometimes extreme enough to impede the maternal-infant bonding (Marshall, Porter, Rogers, Moore, Anderson, & Boxerman, 1982; van Howe, 1996). As reasoned by Herman (1992) and Rhinehart (1999) the common factor underlying circumcision trauma is an experience of violence and powerlessness—inflicted by other human beings. Such an event was described in a study of 12 Turkish boys circumcised in late childhood. Cansever reported that 'Circumcision is perceived by the child as an aggressive attack upon his body, which damaged, mutilated, and, in some cases, totally destroyed him' (1965, p. 328). Ritual circumcision appeared to be associated with increased aggressiveness, weakening of the ego, withdrawal, reduced functioning and adaptation and nightmares consistent with PTSD.

Ramos and Boyle (2001) investigated the psychological effects associated with medical and ritual 'operation tuli' circumcision procedures in the Philippines. Some 1577 boys aged 11 to 16 years (1072 boys circumcised under medical procedures; 505 subjected to ritual circumcision) were surveyed to see if genital cutting led to the development of PTSD. Interestingly, Mezey and Robbins (2001) *estimated* the incidence of PTSD as 1.0–7.8 percent in the general British population where circumcision is not very prevalent. On the other hand, using the PTSD-I questionnaire (Watson, Juba, Manifold,

Kucala, & Anderson, 1991) in a predominantly circumcised population, Ramos and Boyle *observed* an incidence of PTSD of almost 70 percent among boys subjected to ritual circumcision, and 51 percent among boys subjected to medical circumcision (with local anaesthetic). Long-term follow-up would be needed to gauge the extent to which PTSD persists over the life-span of these circumcised boys.

The outcome of painful childhood trauma includes long-lasting neurophysiological and neurochemical brain changes (Anand & Carr, 1989; Anand & Scalzo, 2000; Ciaranello, 1983; Taddio et al., 1997; van der Kolk & Saporta, 1991). Richards, Bernal and Brackbill (1976) found that circumcision may impact adversely on the developing brain, and that reported 'gender differences' may actually arise from behavioral changes induced by infant or childhood circumcision.

Rhinehart (1999) in a report of adult clinical cases concluded that a man circumcised as a child is more likely to react with terror, rage and/or dissociation when confronted with situations interpreted as threatening. As in any situation of post-traumatic stress, an event resembling any aspect of the original traumatic experience is more likely to provoke negative emotions such as panic, rage, violence or dissociation.

It is therefore not surprising that PTSD may result from childhood circumcision (Goldman, 1997, 1999; Menage, 1999; Ramos & Boyle, 2001), just as it does from childhood sexual abuse and rape (Bownes, O'Gorman, & Sayers, 1991; Deblinger, McLeer, & Henry, 1990; Duddle, 1991). Several researchers have concluded that PTSD may result from circumcision and/or from circumcision-related sequelae in later life. For example, Rhinehart (1999) reported finding PTSD in middle-aged men who had been subjected to infant circumcision. Circumcision involves an imbalance of power between perpetrator and victim, contains both aggressive and libidinal elements and threatens a child's sexual integrity by amputating part of the genitalia. Some men circumcised in infancy or childhood without their consent have described their present feelings in the language of violation, torture, mutilation and sexual assault (Bigelow, 1995; Hammond, 1997, 1999).

Even if the psychological sequelae of

circumcision do not coalesce into a formal diagnosis of PTSD, it is possible that there may be long-lasting effects on a man's life, particularly in psychologically sensitive individuals with comorbidity factors (see Mezey & Robbins, 2001). Presumably responding to their current interpretation and feelings, many circumcised men who have recognized the loss of a highly erogenous, irreplaceable part of their penis have reported long-lasting emotional suffering, grief, anxiety and depression and a sense of personal vulnerability (Hammond, 1997, 1999). Avoidance or obsessive preoccupation with such a loss, along with anger, can be difficult to reconcile for some men depending on their particular personality (Bigelow, 1995; Maguire, 1998; van der Kolk, 1989). Emotional numbing, avoidance of the topic of circumcision and anger are potential long-term psychological consequences of the circumcision trauma (Bigelow, 1995; Bensley & Boyle, 2001; Boyle & Bensley, 2001; Gemmill & Boyle, 2001; Goldman, 1997, 1999). In extreme cases, there might be aggressive, violent and/or suicidal behavior (Anand & Scalzo, 2000; Bradley, Oliver, Chernick, & Zucker, 1998; Jacobson & Bygdeman, 1998; Jacobson, Eklund, Hamburger, Linnarsson, Sedvall, & Valverius, 1987).

### **Circumcision and sexuality**

Sigmund Freud (1966 [1920]) asserted that circumcision was a substitute for castration, suggesting a possible connection between castration fears, neuroses and circumcision. Documented cases exist of circumcision resulting in a life-impairing level of castration anxiety (Ozturk, 1973). More recently, Immerman and Mackey described circumcision as 'low-grade neurological castration' (1998, p. 372). They argued that the resultant glans keratinization and neurological atrophy of sexual brain circuitry (due to loss of sensory input to the brain's pleasure centre) may serve as a social control mechanism which produces a male who is less sexually excitable and therefore more amenable to social conditioning.

Indeed, for centuries, circumcision has been used as a strategy to reduce sexual gratification (Maimónides, 1963, p. 609). According to Saperstein (1980), quoting Rabbi Isaac Ben Yedaiah, as well as the empirical findings of Bensley and



Boyle (2001), and O'Hara and O'Hara (1999), heterosexual intercourse is less satisfying for both partners when the man is circumcised. Due to the neurological injury caused by circumcision, and the resultant reduction of sensory feedback (Immerman & Mackey, 1998), it is highly likely that circumcision may promote sexual dysfunction such as premature ejaculation, and consequently, also the reduction of female sexual pleasure (see Money & Davison, 1983). The possible deleterious effects on social and marital relationships (see Hughes, 1990) may be considerable, especially in countries where most men have been circumcised.

### *Structural changes*

Among the structural changes circumcised men may have to live with are surgical complications such as skin tags, penile curvature due to uneven foreskin removal, pitted glans, partial glans ablation, prominent/jagged scarring, amputation neuromas, fistulas, severely damaged frenulum, meatal stenosis and excessive keratinization. In addition, Immerman and Mackey (1998) and Prescott (1989) postulated that severing of erogenous sensory nerve endings in the foreskin during infancy leads to atrophy of non-stimulated neurons in the brain's pleasure centre during the critical developmental period.

Gemmell and Boyle (2001) surveyed 162 self-selected men (121 circumcised; 41 intact) and found that circumcised men reported significantly less penile sensation as compared with genitally intact men. Participants rated their current level of penile sensation (on a scale from 1 to 10) as compared with that experienced at age 18 years (allocated 10 out of 10). Circumcised men complained significantly more often than did genitally intact men of a progressive decline in penile sensation throughout their adult years—presumably due to increasing keratinization of the exposed glans and inner foreskin remnant in circumcised men. Gemmell and Boyle also found that a significantly higher proportion of circumcised as compared with intact men reported bowing or curvature of the penis (also reported by Lawrence, 1997), shaft skin uncomfortably/painfully tight when erect and scars/damage to the penis. Although the frenulum was reported as an area of heightened erogenous sensitivity, in the typical circumcised male, either no frenulum remains or only a small

severely damaged remnant exists. The complex innervation of the foreskin and frenulum has been well documented (Cold & McGrath, 1999; Cold & Taylor, 1999; Fleiss, 1997; Taylor et al., 1996), and the genitally intact male has thousands of fine touch receptors and other highly erogenous nerve endings—many of which are lost to circumcision, with an inevitable reduction in sexual sensation experienced by circumcised males (Immerman & Mackey, 1998; O'Hara & O'Hara, 1999).

### *Functional changes*

There are also serious functional consequences of circumcision. Impaired sexual functioning was reported by 84 percent of respondents in a survey of circumcised men (Hammond, 1997). Taylor, Lockwood and Taylor (1996) provided anatomical and histological support for these self-reports of circumcised men by documenting the irreplaceable loss of specialized erogenous mucosa through circumcision. Further difficulties attributed to circumcision included intimacy problems (45 percent) and addiction/dependency problems (26 percent). Specific physical problems reported included glans insensitivity (55 percent), need for excess stimulation to enable ejaculation (38 percent), prominent scarring (29 percent) and insufficient residual shaft skin to accommodate full, untethered erections (27 percent).

Circumcised males may also be at risk of premature ejaculation, or alternatively may have to resort to prolonged thrusting during intercourse in order to stimulate sufficiently the residual erogenous penile nerve endings to trigger ejaculation (Bensley & Boyle, 2001). They report that the unnatural dryness of their circumcised penis often makes coitus painful, resulting in chafing and/or skin abrasions (Gemmell & Boyle, 2001). Concomitantly, O'Hara and O'Hara (1999) found that female partners reported significantly greater sexual pleasure from intercourse with genitally intact men as compared with circumcised men. Money and Davison (1983) had previously documented a loss of stretch receptors in the prepuce and frenulum and an associated diminution in sexual response, thereby restricting a circumcised man's ability to achieve arousal. Consequently, erectile dysfunction may be a complication of male circumcision (Glover, 1929; Ozkara,

Ascioglu, Alici, Akkus, & Hattat, 1999; Palmer & Link, 1979; Stief, Thon, Djamilian, Allhoff, & Jonas, 1992; Stinson, 1973).

Bensley and Boyle (2001) surveyed women and gay men who had previously had sexual intercourse with both genitally intact and circumcised men. Bensley and Boyle's samples comprised 35 women, and 42 gay men. In addition they surveyed 83 self-selected men (53 circumcised; 30 genitally intact) who provided self-reports regarding their sexual and psychological functioning. The overall results (women partners and gay male partners combined) were that circumcised partners were significantly less happy about their sexual functioning than were genitally intact partners.

In Bensley and Boyle's (2001) study, sexual dysfunction was more often reported by circumcised men who complained either of premature ejaculation (with little sexual sensation), and/or difficulty in gaining or maintaining an erection—the two most prevalent forms of erectile dysfunction. Reduced or insufficient neural feedback may account for circumcised men's inability to detect the moment when ejaculation is imminent. Premature ejaculation previously has been ascribed to learning or conditioning factors. For example, where a teenage boy is raised in an environment in which sexual pleasure is regarded as 'sinful or dirty' he may have to hurry masturbation in order to avoid being 'caught in the act'. Premature ejaculation would therefore be negatively reinforced by avoiding an aversive or punitive consequence (see Schwartz & Reisberg, 1991, pp. 121–122). However, information is now emerging on the role of the prepuce in preventing premature ejaculation, wherein the foreskin serves to protect the corona of the glans penis from direct stimulation during intercourse (Halata & Munger, 1986; Zwang, 1997). Overall, circumcised men expressed significantly greater dissatisfaction with their sex lives than did genitally intact men. This result is consistent with the findings by Hammond (1997, 1999), and O'Hara and O'Hara (1999), that circumcision may impede psychosexual and emotional intimacy between partners.

#### *Altered sexual behaviors*

Apart from reducing sexual sensation and pleasure (Bensley & Boyle, 2001; Gemmell &

Boyle, 2001; Immerman & Mackey, 1998; Milos & Macris, 1994; Money & Davison, 1983; O'Hara & O'Hara, 1999), circumcision also leads to changes in sexual practices. For example, Laumann, Masi and Zuckerman (1997) reported that circumcision is associated with more elaborate sexual behaviors. It is possible that reduced sexual sensation may impel some circumcised men to engage in more elaborate sexual practices in order to attain sexual gratification. In regard to unsafe sex practices, Bensley and Boyle (2001) found that circumcised men were significantly less likely to use condoms than were genitally intact men. Presumably, use of a condom reduces sexual sensation, which may be of somewhat greater concern to circumcised men (see Gemmell & Boyle, 2001; van Howe, 1999).

#### **Other psychological considerations in circumcised men**

In Gemmell and Boyle's (2001) survey, involuntary circumcision impacted negatively on various psychological measures. They found that as compared with genitally intact men, circumcised men were often unhappy about being circumcised, experienced significant anger, sadness, feeling incomplete, cheated, hurt, concerned, frustrated, abnormal and violated (see Hammond, 1999). They also found that circumcised men reported lower self-esteem than did genitally intact respondents.

Rhinehart (1999) stated that psychological problems were almost universally noted by his self-selected circumcised respondents. These included reports of a sense of personal powerlessness, fears of being overpowered and victimized, lack of trust, a sense of vulnerability to violent attack, guardedness in relationships, reluctance to have relationships with women, defensiveness, diminished sense of masculinity, feeling damaged, sense of reduced penile size or amputation, low self-esteem, shame about not 'measuring up', anger and violence towards women, irrational rage reactions, addictions and dependencies, difficulties in establishing intimate relationships, emotional numbing, a need for greater intensity in sexual experiences, decreased intimacy, decreased ability to



communicate, as well as feelings of not being understood.

Hammond's (1997) sample of circumcised men reported emotional harm (83 percent), physical harm (82 percent), general psychological harm (75 percent) and low self-esteem (74 percent). The circumcised men frequently reported feeling mutilated (62 percent), unwhole (61 percent), resentful (60 percent), abnormal/unnatural (60 percent), that one's human rights had been infringed (60 percent), angry (54 percent), frustrated (53 percent), violated (50 percent), inferior to genitally intact males (47 percent), impeded sexually (43 percent) and betrayed by one's parents (34 percent). Similar findings emerged from a larger sample of 546 circumcised men studied by Hammond (1999).

*Anecdotal accounts of circumcision-related psychological distress*

Circumcised men have often provided anecdotal reports pertaining to their negative feelings about involuntary circumcision. For example, one man who contacted one of the authors (RG) at the Circumcision Resource Center in Boston told of an indelible scene when he was 4 years old. He was talking with a genitally intact boy who showed him his penis and explained circumcision to him. He was shocked and ashamed at what had been done to him and thought, 'Why would somebody want to do that to me? They just chopped it off. It didn't make any sense to me'. As an adult he thinks about it 'every time I take a shower or urinate' (personal communication, December 1993).

Another example of discovering the difference between being genitally intact as compared with being circumcised is the following retrospective anecdotal story also told to the same author (RG).

The shock and surprise of my life came when I was in junior high school, and I was in the showers after gym . . . I wondered what was wrong with those penises that looked different than mine . . . I soon realized I had part of me removed. I felt incomplete and very frustrated when I realized that I could never be like I was when I was born—intact. That frustration is with me to this day. Throughout life I have

regretted my circumcision. Daily I wish I were whole. (Personal communication, October 1992)

Likewise, an Australian man recently wrote to another author (GB) at Bond University:

I have been disadvantaged by inferiority and non-assertiveness in the workplace and in social life so much that I recently had to go onto a disability pension for chronic anxiety/anger disorder. My lifelong psychological distress of being circumcised definitely contributed strongly to steering me into this pattern of human interaction. I have no spare funds to take individual legal action, and no living person to sue for my poor quality of life, but if ever a class action for damages due to circumcision is mounted, I wish to add my name to it. (Personal communication April 2001)

Many similar anecdotal stories by circumcised men telling about psychological unhappiness that they perceived to be related to involuntary circumcision have been reported, for example, by Bigelow (1995) and Goldman (1997).

**Methodological caveats**

*Sampling*

One limitation of some of the foregoing research is that random sampling was not always enforced in subject recruitment (e.g. Rhinehart, 1999; Hammond, 1997, 1999). This may be understandable because of the difficulties in boosting sample sizes and the fact that participants were sometimes confined to certain 'captive groups'. In any case, the result is that there may be a self-selection bias as widely noted in survey research. Arguably, this could have led to inflation of some statistical effects of circumcision-related sequelae.

*Underestimation*

Conversely, it is possible that problems related to circumcision may be greater than reported. The following speculations may explain why we do not hear more from many circumcised men about how they may truly feel (see Goldman, 1998, pp. 43–44):

1. The pressure to accept sociocultural assumptions regarding circumcision may prevent

some men from recognizing and feeling dissatisfaction. For example, some men were told when young that circumcision was necessary for health reasons and they did not question that assertion. In countries where circumcision is commonplace, its effects may become familiar and it is possible that these effects may be interpreted as 'normal' (Bigelow, 1995; Goldman, 1997).

2. Verbal expression of preverbal feelings requires conscious awareness. Because preverbal traumas are generally unconscious, such feelings are expressed non-verbally through behavioral, emotional and physiological forms (Chamberlain, 1989; Terr, 1988, 1991; van der Kolk, 1989).
3. Any negative emotions associated with circumcision that may emerge into the conscious psyche may be very intense and disturbing. Repressing such emotions may serve to protect men from possible anguish. This may be compounded by the fear of dismissal or ridicule of one's feelings. If negative thoughts and/or feelings do momentarily become conscious, it is likely they will be suppressed.
4. Privacy surrounding matters of sexuality may inhibit men from speaking out.

Non-verbal expression, lack of awareness and understanding of possible psychosexual sequelae related to circumcision, emotional repression and fear of disclosure may help to keep circumcision feelings a secret. It is conceivable that the effects of circumcision trauma might become chronic and deeply embedded within the unconscious psyche, making it difficult to distinguish them from personality traits or effects due to other causes. In any case, more research is needed to address the conscious and unconscious psychological effects of circumcision on men.

### *Cognitive dissonance*

Although in recent years cognitive dissonance theory has fallen somewhat into disrepute (Walker, Burnham, & Borland, 1994: 535), the theory may still be useful in explaining certain entrenched attitudes surrounding circumcision. Thus, the common resistance of some parents and doctors to information associating circumcision with harm invites speculation to explain it.

Generally, people have a desire for coherence and consistency in their beliefs and experiences and it is possible that this factor may contribute to some extent to the perpetuation of cognitions supportive of circumcision. When inconsistency occurs, thereby creating cognitive dissonance, people may align their beliefs to fit their experience (Festinger & Carlsmith, 1959). Choosing to seek or to provide parental consent and then to circumcise or to allow one's child to be circumcised is a serious and irreversible choice. In accordance with cognitive dissonance theory, it would be expected that once the decision has been made and the circumcision carried out, most people would tend to appreciate the chosen alternative (circumcision) and depreciate the rejected alternative (leaving the child genitally intact)—see Brehm (1956).

As a result, beliefs may be adopted to conform with one's decision to circumcise. An example of these beliefs involving the psychological defence mechanisms of denial and rationalization is the myth that newborn infants do not feel or remember pain. Even though studies suggest long-lasting memory of circumcision pain—particularly when the circumcision occurred during post-infancy childhood years (Chamberlain, 1989; Hepper, 1996; Rhinehart, 1999), some doctors who circumcise normal healthy boys may simply ignore this information (Stang & Snellman, 1998). As well, a small proportion of doctors may proceed with the surgery on the basis of ill-informed beliefs. Others, by invoking psychological defences, may be perceptually blind to the pain associated with circumcision—perhaps as a result of their own circumcised status.

Inconsistency can also be reconciled by altering our beliefs. A common misconception is that the prepuce has no useful purpose. One circumcision advocate stated, 'I believe the foreskin is a mistake of nature' (Wiswell, 1994, p. 34, cited in Goldman, 1997). We may perceive and accept only information that fits our beliefs. Some physicians who support circumcision dismiss outright new information that conflicts with their preconceived view (Briggs, 1985). The tendency to avoid new information increases when the discrepancy between beliefs and experience increases (Kumpf & Gotz-Marchand, 1973). Even after learning something new, people better remember information that

supports established beliefs than they remember conflicting information (O'Sullivan & Durso, 1984). Avoidance of new information about the possible psychosexual sequelae of circumcision may lead to rigidity of thinking and a dependence on previously acquired dogma and cultural myths to counteract and subdue doubts, thereby maintaining cognitive harmony. As Bigelow stated: 'This effect is very detectable among parents who have elected to circumcise their son—especially since they cannot retract their choice! These parents frequently do not want to hear anything negative about infant circumcision . . .' (1995, pp. 105–106).

## Future directions

### *Foreskin restoration*

If involuntary circumcision can bring about psychological consequences through the aftermath of trauma, then it is possible that 'uncircumcision' (Schultheiss, Truss, Stief, & Jonas, 1998) may go some way towards attenuating those effects. In recent years, there has been an increasing awareness among circumcised men about the possibility of restoring a foreskin (albeit devoid of the amputated erogenous nerve endings), through a process of stretching and skin expansion over some years (Bigelow, 1995). Some men who have undergone foreskin restoration have reported discernible recovery of sexual sensation and function previously lost to circumcision, and sometimes a lessening of associated negative emotions (Goodwin, 1990; Greer, Mohl, & Sheley, 1982; Griffiths, 2001; O'Hara & O'Hara, 2001).

Mohl, Adams, Greer and Sheley (1981) failed to mention that one of the main reasons for circumcised men to restore themselves genitally was the crucial loss of prepuce function during sexual activity. Instead, they claimed that men who sought foreskin restoration were homosexually orientated with psychopathology including narcissistic and exhibitionistic body image, depression, inadequate early mothering and egocentrism. Yet this conclusion was based on an unrepresentative sample of only eight men. These 20-year-old results suffer from an analysis based on what today would be considered outdated therapeutic and discriminatory social prejudices against individuals with a homosexual orientation. Even so, Bigelow

(1995), and Griffiths (2001), reported that most men undergoing foreskin restoration are in fact heterosexual. As Schultheiss et al. stated, 'Nowadays, the understanding of the psychological motivations for uncircumcision is increasing, and the problem is dealt with more seriously . . . the majority of the males performing skin-stretching are heterosexual' (1998, p. 1996). Postulated psychosexual benefits resulting from foreskin restoration have been discussed by Bigelow (1995).

### *Circumcision advocacy*

Even though research suggests harmful effects of circumcision (e.g. Cold & Taylor, 1999; Denniston, Hodges, & Milos, 1999; Denniston & Milos, 1977; Hammond, 1999; van Howe et al., 1999), psychological factors may make it difficult for circumcision advocates to stop promoting the practice (Goldman, 1997, 1998, 1999). Presumably, grief for the lost sexual body part and its functions, and the resultant denial of loss is important because it may explain the circumcised 'adamant father' (who unreasonably insists on the circumcision of a son in the face of contrary evidence) as well as other manifestations of the circumcised male such as the 'I'm circumcised and I'm fine' syndrome (Bigelow, 1995; Ritter & Denniston, 1996). Grief and denial in relation to involuntary circumcision may well play a role in the psychology of the circumcised male (Parkes, 1998). Such factors may figure even more prominently among those doctors who devote their entire medical practice or a substantial portion thereof to circumcising normal healthy boys when there is no medical reason to do so (see Bigelow, 1995, pp. 94–99). Some trauma victims experience a compulsion to re-enact the trauma (van der Kolk, 1989). Circumcising infants may to some extent involve re-enacting the trauma of one's own circumcision. A survey of randomly selected physicians showed that circumcision was more often supported by male doctors who themselves happened to be circumcised (Stein, Marx, Taggart, & Bass, 1982).

## Conclusion

The body of empirical evidence reviewed here suggests that there is severe pain at the time of circumcision and shortly thereafter in

unanaesthetized boys, as well as heightened pain sensitivity for some considerable period of time afterwards. Evidence has also started to accumulate that male circumcision may result in life-long physical, sexual and sometimes psychological harm as well. A variety of forces are converging from fields as diverse as psychology, medicine, law, medical ethics and human rights, all questioning the advisability of circumcision which originated millennia ago and was promoted in the Victorian era. As Chamberlain pointed out, 'parents are not warned that their infants will endure severe pain and will be deprived of a functional part of their sexual anatomy for life' (1998, p. 175). Non-therapeutic circumcision of male minors is now being questioned by legal and ethics scholars in an unprecedented way. The mental health community can play an important role in the growing debate about circumcision. We encourage closer examination of this issue and even more empirical research into the psychosexual sequelae associated with circumcision.

## References

- American Academy of Pediatrics (AAP). (1999). Circumcision policy statement (RE 9850). *Pediatrics*, 103, 686-693.
- American Academy of Pediatrics (AAP). (2001). Policy statement: The assessment and management of acute pain in infants, children, and adolescents (0793). *Pediatrics*, 108, 793-797.
- American Medical Association. (2000). *Report 10 of the Council on Scientific Affairs (I-99)*. American Medical Association, 6 July, Chicago, IL.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders*, 4th edn. Washington, DC: American Psychiatric Association.
- Anand, K. J., & Carr, D. (1989). The neuroanatomy, neurophysiology, and neurochemistry of pain, stress, and analgesia in newborns and children. *Pediatric Clinics of North America*, 36, 795-822.
- Anand, K. J., & Hickey, P. R. (1987). Pain and its effects in the human neonate and fetus. *New England Journal of Medicine*, 317, 1321-1329.
- Anand, K. J., & Scalzo, F. M. (2000). Can adverse neonatal experiences alter brain development and subsequent behavior? *Biology of the Neonate*, 77, 69-82.
- Andrews, K., & Fitzgerald, M. (1997). Biological barriers to paediatric pain management. *Clinical Journal of Pain*, 13, 138-143.
- Australasian Association of Paediatric Surgeons. (1996). *Guidelines for Circumcision*. URL: <http://www.cirp.org/library/statements/aaps>, Herston, Queensland.
- Australian College of Paediatrics. (1996). *Position statement: Routine circumcision of normal male infants and boys*. Parkville, Vic.
- Bensley, G. A., & Boyle, G. J. (2001). *Physical, sexual, and psychological impact of male infant circumcision: An exploratory survey*. In G. C. Denniston, F. M. Hodges, & M. F. Milos (Eds.), *Understanding circumcision: A multi-disciplinary approach to a multi-dimensional problem* (pp. 207-239). New York: Kluwer/Plenum.
- Bigelow, J. (1995). *The joy of uncircumcising: Exploring circumcision: History, myths, psychology, restoration, sexual pleasure and human rights*, 2nd edn. Aptos, CA: Hourglass.
- Bownes, I. T., O'Gorman, E. C., & Sayers, A. (1991). Assault characteristics and post-traumatic stress disorder in rape victims. *Acta Psychiatrica Scandinavica*, 83, 27-30.
- Boyd, B. R. (1998). *Circumcision exposed: Rethinking a medical and cultural tradition*. Freedom, CA: The Crossing Press.
- Boyle, G. J. (2000). *El trastorno por estrés post-traumático (PTSD) de larga duración como resultado de la cirugía de los menores*. Paper presented at the 3rd National Congress on Violence and Mental Health, San Salvador, El Salvador, CA, 6-7 October. URL: <http://www.cirp.org/library/psych/boyle2>.
- Boyle, G. J. (2001). *Ending forced genital cutting of children and violation of their human rights: Ethical, psychological and legal considerations*. In G. C. Denniston, F. M. Hodges, & M. F. Milos (Eds.), *Understanding circumcision: A multi-disciplinary approach to a multi-dimensional problem* (pp. 1-18). New York: Kluwer/Plenum.
- Boyle, G. J., & Bensley, G. A. (2001). Adverse sexual and psychological effects of male infant circumcision. *Psychological Reports*, 88, 1105-1106.
- Boyle, G. J., Svoboda, J. S., Price, C. P., & Turner, J. N. (2000). Circumcision of healthy boys: Criminal assault? *Journal of Law and Medicine*, 7, 301-310. URL: <http://www.cirp.org/library/legal/boyle1>.
- Bradley, S. J., Oliver, G. D., Chernick, A. B., & Zucker, K. J. (1998). Experiment of nurture: Ablatio penis at 2 months, sex reassignment at 7 months, and a psychosexual follow-up in young adulthood. *Pediatrics*, 102, e9.
- Brehm, J. (1956). Postdecision changes in the desirability of alternatives. *Journal of Abnormal and Social Psychology*, 52, 384-389.
- Briggs, A. (1985). *Circumcision: What every parent should know*. Earlsyville, VA: Birth & Parenting Publications.
- British Medical Association (1996). *Circumcision of*

- male infants: Guidance for doctors.* London: British Medical Association. URL: <http://www.cirp.org/library/statements/bma>
- Canadian Paediatric Society Fetus and Newborn Committee. (1996). Neonatal circumcision revisited. *Canadian Medical Association Journal, 154*, 769-780.
- Cansever, G. (1965). Psychological effects of circumcision. *British Journal of Medical Psychology, 38*, 328.
- Chamberlain, D. B. (1989). Babies remember pain. *Pre- and Perinatal Psychology Journal, 3*, 297-310.
- Chamberlain, D. B. (1995). Featured paper: Birth and the origins of violence. *Pre- and Perinatal Psychology Journal, 10*, 57-74.
- Chamberlain, D. B. (1998). Babies don't feel pain: A century of denial in medicine. In R. Davis-Floyd & J. Dumit (Eds.), *Cyborg babies: From techno-sex to techno-tots* (pp. 168-189). New York: Routledge.
- Chu, J., & Dill, D. (1990). Dissociative symptoms in relation to childhood physical and sexual abuse. *American Journal of Psychiatry, 147*, 887-892.
- Ciaranello, R. (1983). Neurochemical aspects of stress. In N. Garnezy & M. Rutter (Eds.), *Stress, coping, and development in children* (pp. 85-105). New York: McGraw-Hill.
- Cold, C. J., & McGrath, K. A. (1999). Anatomy and histology of the penile and clitoral prepuce in primates. In G. C. Denniston, F. M. Hodges, & M. F. Milos (Eds.), *Male and female circumcision: Medical, legal, and ethical considerations in pediatric practice* (pp. 19-29). New York: Kluwer Academic/Plenum.
- Cold, C. J., & Taylor, J. (1999). The prepuce. *British Journal of Urology International, 83* (Supplement 1), 34-44.
- Deblinger, E., McLeer, S. V., & Henry, D. (1990). Cognitive behavioural treatment for sexually abused children suffering post-traumatic stress. *Journal of the American Academy of Child and Adolescent Psychiatry, 29*, 747-752.
- Denniston, G. C., & Milos, M. F. (Eds.) (1977). *Sexual mutilations: A human tragedy.* New York: Plenum.
- Denniston, G. C., Hodges, F. M., & Milos, M. F. (Eds.) (1999). *Male and female circumcision: Medical, legal, and ethical considerations in pediatric practice.* New York: Kluwer Academic/Plenum.
- Dixon, S., Snyder, J., Holve, R., & Bromberger, P. (1984). Behavioral effects of circumcision with and without anesthesia. *Journal of Developmental and Behavioral Pediatrics, 5*, 246-250.
- Duddle, M. (1991). Emotional sequelae of sexual assault. *Journal of the Royal Society of Medicine, 84*, 26-28.
- Eth, S., & Pynoos, R. (1985). Developmental perspective on psychic trauma in childhood. In C. Figley (Ed.), *Trauma and its wake.* New York: Brunner/Mazel.
- Fernandez, E. (1986). A classification system of cognitive coping strategies for pain. *Pain, 26*, 141-151.
- Fernandez, E., & Turk, D. C. (1989). The utility of cognitive coping strategies for altering pain perception: A meta-analysis. *Pain, 38*, 123-135.
- Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *Journal of Abnormal and Social Psychology, 58*, 203-210.
- Field, T. (1995). Infancy is not without pain. In R. Vasta (Ed.), *Annals of child development: A research annual* (vol. 10, pp. 1-26). Bristol, PA: Jessica Kingsley Publishers.
- Fitzgerald, M. (1987). Pain and analgesia in neonates. *Trends in Neurosciences, 10*, 344-346.
- Fitzgerald, M. (1998). The birth of pain. *MRC News, Summer*, 20.
- Fleiss, P. M. (1997). The case against circumcision. *Mothering Magazine, Winter*, 36-45. Located at URL: <http://www.MothersAgainstCirc.org/fleiss.html>.
- Freud, A. (1952). The role of bodily illness in the mental life of children. *Psychoanalytic Study of the Child, 7*, 69-81.
- Freud, S. (1966 [1920]). *Introductory lectures on psychoanalysis.* New York: Norton, p. 165.
- Gemmell, T., & Boyle, G. J. (2001). *Neonatal circumcision: Its long-term harmful effects.* In G. C. Denniston, F. M. Hodges, & M. F. Milos (Eds.), *Understanding circumcision: A multi-disciplinary approach to a multi-dimensional problem* (pp. 241-252). New York: Kluwer/Plenum.
- Giannetti, M. R. (2000). Circumcision and the American Academy of Pediatrics: Should scientific misconduct result in trade association liability? *Iowa Law Review, 85*, 1507-1568. URL: <http://www.cirp.org/library/legal/giannetti>.
- Glover, E. (1929). The 'screening' function of traumatic memories. *International Journal of Psychoanalysis, 10*, 90-93.
- Goldman, R. (1997). *Circumcision: The hidden trauma.* Boston, MA: Vanguard.
- Goldman, R. (1998). *Questioning circumcision: A Jewish perspective.* Boston, MA: Vanguard.
- Goldman, R. (1999). The psychological impact of circumcision. *British Journal of Urology International, 83* (Supplement 1), 93-102. URL: <http://www.cirp.org/library/psych/goldman1>.
- Gollaher, D. L. (2000). *A history of the world's most controversial surgery.* New York: Basic Books.
- Goodwin, W. E. (1990). Uncircumcision: A technique for plastic reconstruction of a prepuce after circumcision. *Journal of Urology, 144*, 1203-1205.
- Green, A. (1983). Dimensions of psychological trauma in abused children. *Journal of the American Association of Child Psychiatry, 22*, 231-237.



- Greer, D. M., Mohl, P. C., & Sheley, K. A. (1982). A technique for foreskin reconstruction and some preliminary results. *Journal of Sex Research, 18*, 324-330.
- Griffiths, W. (2001). *The National Organization of Restoring Men (NORM)*. URL: <http://www.norm.org>.
- Grunau, R. V. E., Johnston, C., & Craig, K. D. (1990). Neonatal facial and cry responses to invasive and non-invasive procedures. *Pain, 42*, 295-305.
- Halata, Z., & Munger, B. L. (1986). The neuro-anatomical basis for the protopathic sensibility of the human glans penis. *Brain Research, 371*, 205-230.
- Hammond, T. (1997). Long-term consequences of neonatal circumcision: A preliminary poll of circumcised males. In G. C. Denniston & M. F. Milos (Eds.), *Sexual mutilations: A human tragedy* (pp. 125-129). New York: Plenum.
- Hammond, T. (1999). A preliminary poll of men circumcised in infancy or childhood. *British Journal of Urology International, 83* (Supplement 1), 85-92.
- Hepper, P. G. (1996). Fetal memory: Does it exist? What does it do? *Acta Paediatrica Supplement, 416*, 16-20.
- Herman, J. (1992). *Trauma and recovery*. New York: Basic Books.
- Hodges, F. (1997). A short history of the institutionalization of involuntary sexual mutilation in the United States. In G. C. Denniston & M. F. Milos (Eds.), *Sexual mutilations: A human tragedy* (pp. 17-40). New York: Plenum.
- Hodges, F. M., Svoboda, J. S., & van Howe, R. S. (2002). Prophylactic interventions on children: Balancing human rights with public health. *Journal of Medical Ethics, 28*, 10-16.
- Hughes, G. K. (1990). Circumcision: Another look. *Ohio Medicine, 86*, 92.
- Immerman, R. S., & Mackey, W. C. (1998). A proposed relationship between circumcision and neural reorganization. *Journal of Genetic Psychology, 159*, 367-378.
- International Association for the Study of Pain (IASP). (1986). Classification of chronic pain: Descriptions of chronic pain syndromes and definitions of pain terms. *Pain, 3* (Supplement), S1-S226.
- Jacobson, B., & Bygdeman, M. (1998). Obstetric care and proneness of offspring to suicide. *British Medical Journal, 317*, 1346-1349.
- Jacobson, B., Eklund, G., Hamburger, L., Linnarsson, D., Sedvall, G., & Valverius, M. (1987). Perinatal origin of adult self-destructive behavior. *Acta Psychiatrica Scandinavica, 76*, 364-371.
- Jacobson, B., Nyberg, K., Gronbladh, L., Eklund, G., Bygdeman, M., Rydberg, U. (1990). Opiate addiction in adult offspring through possible imprinting after obstetric treatment. *British Medical Journal, 301*(6760), 1067-1070.
- Johnston, C. C., & Strada, M. E. (1986). Acute pain response in infants: A multidimensional description. *Pain, 24*, 373-382.
- Kennedy, H. (1986). Trauma in childhood: Signs and sequelae as seen in the analysis of an adolescent. *Psychoanalytic Study of the Child, 41*, 209-219.
- Kumpf, M., & Gotz-Marchand, B. (1973). Reduction of cognitive dissonance as a function of magnitude of dissonance, differentiation, and self-esteem. *European Journal of Social Psychology, 3*, 255-270.
- Lander, J., Brady-Freyer, B., Metcalfe, J. B., Nazerali, S., & Muttit, S. (1997). Comparison of ring block, dorsal penile nerve block, and topical anesthesia for neonatal circumcision: A randomized controlled trial. *Journal of the American Medical Association, 278*, 2157-2162.
- Lang, K. (1986). Conservative therapy of phimosis. *Monatsschr Kinderheilkd, 132*, 824-825.
- Laumann, E. O., Masi, C. M., & Zuckerman, E. W. (1997). Circumcision in the United States: Prevalence, prophylactic effects, and sexual practice. *Journal of the American Medical Association, 277*, 1052-1057.
- Lawrence, P. (1997). The first cut. *Outrage Magazine, 172* (September), 5.
- Levine, J. D., & Gordon, N. C. (1982). Pain in pre-lingual children and its evaluation by pain-induced vocalization. *Pain, 14*, 85-93.
- Levy, D. M. (1945). Psychic trauma of operations in children. *American Journal of Diseases of Children, 69*, 7-25.
- Maguire, P. (1998). Coping with loss: Surgery and loss of body parts. *British Medical Journal, 316*, 1086-1088.
- Maimónides, Moses. (1963). *The guide of the perplexed*. Trans. Shlomo Pines. Chicago, IL: University of Chicago Press. URL: <http://www.cirp.org/library/cultural/maimonides>.
- Maiz, S., & Fernandez, E. (2000). Three decades of pediatric pain treatment: What have we learned? Paper presented at the 108th Annual Convention of the American Psychological Association, 4-8 August, Washington, DC.
- Marshall, R. E., Porter, F. L., Rogers, A. G., Moore, J. A., Anderson, B., & Boxerman, S. B. (1982). Circumcision: II. Effects upon mother-infant interaction. *Early Human Development, 7*, 367-374.
- McFadyen, A. (1998). Children have feelings too. *British Medical Journal, 316*, 1616.
- Melzack, R., & Wall, P. D. (1965). Pain mechanisms: A new theory. *Science, 150*, 971-979.
- Menage, J. (1999). Post-traumatic stress disorder after genital medical procedures. In G. C. Denniston, F. M. Hodges, & M. F. Milos (Eds.), *Male and female circumcision: Medical, legal, and*



- ethical considerations in pediatric practice* (pp. 215–219). New York: Kluwer Academic/Plenum.
- Mezey, G., & Robbins, I. (2001). Usefulness and validity of post-traumatic stress disorder as a psychiatric category. *British Medical Journal*, *323*, 561–563.
- Milos, M. F., & Macris, D. R. (1994). Circumcision: Male-effects upon human sexuality. In V. L. Bullough & B. Bullough, *Human sexuality: An encyclopedia* (pp. 119–122). New York: Garland.
- Mohl, P. C., Adams, R., Greer, D. M., & Sheley, K. A. (1981). Prepuce restoration seekers: Psychiatric aspects. *Archives of Sexual Behavior*, *10*, 383–393.
- Money, J., & Davison, J. (1983). Adult penile circumcision: Erotosexual and cosmetic sequelae. *Journal of Sex Research*, *19*, 289–292.
- Moscucci, O. (1996). Clitoridectomy, circumcision, and the politics of sexual pleasure. In A. H. Miller & J. E. Adams (Eds.), *Sexualities in Victorian Britain* (pp. 60–78). Bloomington, IN: Indiana University Press.
- National Center for Health Statistics. (1998). *National USA circumcision statistics*. Hyattsville, MD: Department of Health & Human Services.
- Noyes, R. (1977). Depersonalization in response to life threatening danger. *Comprehensive Psychiatry*, *18*, 375–384.
- O'Hara, K., & O'Hara, J. (1999). The effect of male circumcision on the sexual enjoyment of the female partner. *British Journal of Urology International*, *83* (Supplement 1), 79–84.
- O'Hara, K., & O'Hara, J. (2001). *Sex as nature intended it: The most important thing you need to know about making love, but no one could tell you until now*. Hudson, MA: Turning Point Publications.
- O'Sullivan, C., & Durso, F. (1984). Effect of schema-incongruent information on memory for stereotypical attributes. *Journal of Personality and Social Psychology*, *47*, 55–70.
- Ozkara, H., Ascioglu, F., Alici, B., Akkus, E., & Hattat, H. (1999). Retrospective analysis of medicolegal cases and evaluation for erectile function. *American Journal of Forensic Medical Pathology*, *20*, 145–149.
- Ozturk, O. (1973). Ritual circumcision and castration anxiety. *Psychiatry*, *36*, 55.
- Palmer, J. M., & Link, D. (1979). Impotence following anesthesia for elective circumcisions. *Journal of the American Medical Association*, *241*, 2635–2666.
- Parkes, C. M. (1998). Coping with loss: Facing loss. *British Medical Journal*, *316*, 1521–1524.
- Porter, F. L., Miller, R. H., & Marshall, R. E. (1986). Neonatal pain cries: Effect of circumcision on acoustic features and perceived urgency. *Child Development*, *57*, 790–802.
- Porter, F. L., Porges, S. W., & Marshall, R. E. (1988). Newborn pain cries and vagal tone: Parallel changes in response to circumcision. *Child Development*, *59*, 495–505.
- Prescott, J. W. (1989). Genital pain vs genital pleasure: Why the one and not the other? *Truth Seeker*, *1*, 14–21.
- Ramos, S., & Boyle, G. J. (2001). Ritual and medical circumcision among Filipino boys: Evidence of post-traumatic stress disorder. In G. C. Denniston, F. M. Hodges, & M. F. Milos (Eds.), *Understanding circumcision: A multi-disciplinary approach to a multi-dimensional problem* (pp. 253–270). New York: Kluwer/Plenum.
- Rhinehart, J. (1999). Neonatal circumcision reconsidered. *Transactional Analysis Journal*, *29*, 215–221.
- Richards, D. (1996). Male circumcision: Medical or ritual? *Journal of Law and Medicine*, *3*, 371–376.
- Richards, M. P. M., Bernal, J. F., & Brackbill, Y. (1976). Early behavioral differences: Gender or circumcision? *Developmental Psychobiology*, *9*, 89–95.
- Ritter, T. J., & Denniston, G. C. (1996). *Say no to circumcision! 40 compelling reasons*, 2nd edn. Aptos, CA: Hourglass.
- Saperstein, M. (1980). *Decoding the Rabbis: A thirteenth-century commentary on the Aggadah*. Cambridge, MA: Harvard University Press (pp. 97–98).
- Schultheiss, D., Truss, M. C., Stief, C. G., & Jonas, U. (1998). Uncircumcision: A historical review of preputial restoration. *Plastic and Reconstructive Surgery*, *101*, 1990–1998.
- Schwartz, B., & Reisberg, D. (1991). *Learning and memory*. New York: Norton.
- Smith, J. (1998). Male circumcision and the rights of the child. In M. Bulterman, A. Hendriks, & J. Smith (Eds.), *To Baehr in our minds: Essays in human rights from the heart of the Netherlands* (pp. 465–498). Utrecht, Netherlands: Netherlands Institute of Human Rights.
- Somerville, M. (2000). *The ethical canary: Science, society and the human spirit*. Ringwood, Australia: Penguin.
- Stang, H. J., & Snellman, L. W. (1998). Circumcision practice patterns in the United States. *Pediatrics*, *101*, e5.
- Stein, M., Marx, M., Taggart, S., & Bass, R. (1982). Routine neonatal circumcision: The gap between contemporary policy and practice. *Journal of Family Practice*, *15*, 47–53.
- Stief, C. G., Thon, W. F., Djamilian, M., Allhoff, E. P., & Jonas, U. (1992). Transcutaneous registration of cavernous smooth muscle electrical activity: Noninvasive diagnosis of neurogenic autonomic impotence. *Journal of Urology*, *147*, 47–50.
- Stinson, J. M. (1973). Impotence and adult circumcision. *Journal of the National Medical Association*, *65*, 162–179.
- Svoboda, J. S., van Howe, R. S., & Dwyer, J. G. (2000). Neonatal circumcision: An ethical and legal

- conundrum. *Journal of Contemporary Health Law and Policy*, 17, 61-133.
- Taddio, A., Katz, J., Ilersich, A. L., & Koren, G. (1997). Effect of neonatal circumcision on pain response during subsequent routine vaccination. *The Lancet*, 349, 599-603.
- Taylor, J. R., Lockwood, A. P., & Taylor, A. J. (1996). The prepuce: Specialized mucosa of the penis and its loss to circumcision. *British Journal of Urology*, 77, 291-295.
- Terr, L. (1988). What happens to early memories of trauma? *Journal of the American Academy of Child and Adolescent Psychiatry*, 27, 96-104.
- Terr, L. (1990). *Too scared to cry*. New York: Harper & Row.
- Terr, L. (1991). Childhood traumas: An outline and overview. *American Journal of Psychiatry*, 148, 10-20.
- Tyler, D. C. (1988). Pain in the neonate. *Pre- and Perinatal Psychology Journal*, 3, 53-59.
- van der Kolk, B. (1989). The compulsion to repeat the trauma: Re-enactment, revictimization, and masochism. *Psychological Clinics of North America*, 12, 389-411.
- van der Kolk, B., & Saporta, J. (1991). The biological response to psych trauma: Mechanisms and treatment of intrusion and numbing. *Anxiety Research*, 4, 199-212.
- van Howe, R. (1996). Letter regarding peri-natal hospital stays and the performance of circumcision. *Journal of Family Practice*, 43, 431.
- van Howe, R. (1999). Circumcision and HIV infection: Review of the literature and meta-analysis. *International Journal of STDs and AIDS*, 10, 8-16.
- van Howe, R., Svoboda, J. S., Dwyer, J. G., & Price, C. P. (1999). Involuntary circumcision: The legal issues. *British Journal of Urology International*, 83 (Supplement 1), 63-73.
- Walker, M., Burnham, D., & Borland, R. (1994). *Psychology*, 2nd edn. Brisbane: Wiley.
- Wallerstein, E. (1980). *Circumcision: An American health fallacy*. New York: Springer.
- Wallerstein, E. (1985). Circumcision: The uniquely American medical enigma. *Urologic Clinics of North America*, 12, 123-132.
- Watson, C. G., Juba, M. P., Manifold, V., Kucala, T., & Anderson, P. E. D. (1991). The PTSD interview: Rationale, description, reliability, and concurrent validity of a DSM-III-based technique. *Journal of Clinical Psychology*, 47, 179-188.
- Williams, N., & Kapila, L. (1993). Complications of circumcision. *British Journal of Surgery*, 80, 1231-1236.
- Williamson, P., & Evans, N. (1986). Neonatal cortisol response to circumcision with anesthesia. *Clinical Pediatrics*, 25, 412.
- Wiswell, T. (1994). *National Organization of Circumcision Information Resource Centers (NOCIRC) Newsletter*, 2, Fall. Washington, DC: NOCIRC.
- Zwang, G. (1997). Functional and erotic consequences of sexual mutilations. In G. C. Denniston & M. F. Milos (Eds.), *Sexual mutilations: A human tragedy* (pp. 67-76). New York: Plenum.