

**The Orthopedic Origin of Popular Male Circumcision in America**

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## **Abstract**

### **Introduction and Objectives**

Prophylactic male circumcision, in the absence of any existing urologic pathology, has been and continues to be controversial, as is evidenced by the recently and frequently updated American Academy of Pediatrics policy statement on that surgery. This paper investigates the origins of popular circumcision in America, to determine the foundation of the current controversy.

### **Materials and Methods**

Review of the relevant primary and secondary source literature, including the LA Sayre archival collection at the New York Academy of Medicine.

### **Results**

Male circumcision was first popularized in late 19<sup>th</sup>-century America by Lewis Sayre, a renowned orthopedic surgeon, public-health activist, and creator of the Journal of the American Medical Association. On the basis of a few orthopedic case reports, Sayre used his influence to promote male circumcision, by redefining it as a systemic therapy, rather than a local anatomic alteration. This redefinition was consonant with the contemporary reflex-neurosis theory of disease, as well as the historic humoral understanding of the human body.

### **Conclusions**

Sayre successfully redefined male circumcision as a systemic therapy, positioning it for continued popularity as a sanitary intervention into the 20<sup>th</sup> century. Since then, research into the benefits of this surgery has most productively focused on the ways in which it might prevent systemic infections, such as HIV. However, the dubious evidentiary origins of Sayre's influential work are a caution against too uncritically accepting as true even the most exciting and promising research.

## **Introduction**

Prophylactic male circumcision, performed in the absence of any urologic disease, is one of the most commonly performed surgeries in the United States, as well as one of the most controversial. This controversy is reflected in the revised Circumcision Policy Statement put forth by the American Academy of Pediatrics (AAP) last year, the fourth revision in as many decades. During those years, the AAP has vacillated regarding the advisability of prophylactic circumcision, struggling to balance the established popularity of neonatal male circumcision in America, existing medical evidence, and the growth of a vocal anti-circumcision lobby.

The most recent policy statement does little to resolve this struggle, contending that although “preventive health benefits of elective circumcision of male newborns outweigh the risks of the procedure,” specifically benefits with regard to contracting infectious diseases, especially HIV, these “health benefits are not great enough to recommend routine circumcision for all male newborns.” Thus, patients and physicians are left to navigate the contradiction inherent in a procedure that is supposedly of low medical risk and substantial medical benefit, but regardless is not medically advised, except in the context of certain “religious, ethical, and cultural beliefs and practices.”<sup>1</sup>

This paper investigates the foundation of the ongoing popularity and popular confusion surrounding prophylactic male circumcision,<sup>2</sup> by describing the 19<sup>th</sup>-century origin of popular male circumcision in America. At that time, circumcision was considered a bizarre cultural practice of Jews and Muslims, only to be medically applied in cases of extreme urologic need. This conviction was overturned by the efforts of a prominent orthopedic surgeon, Dr. Lewis Sayre, who successfully promoted male circumcision as a treatment for neuromuscular disease, thereby also establishing its prophylactic potential.

## **Materials and Methods**

Given the popularity of male circumcision, as well as its ancient history, there is an enormous amount of literature on the subject, of varying quality. This paper is based on close-reading and period contextualization of primary source documents, obtained from the collection of the writings of Lewis Sayre at the New York Academy of Medicine. It also makes reference to some of the less partisan secondary sources on the history of circumcision, a subject whose controversy colors much of what has been written about it.

## **Results**

On May 4, 1870, Lewis Sayre presented a paper to the American Medical Association’s (AMA) Section on Anatomy and Surgery, titled “Partial Paralysis from Reflex Irritation, Caused by Congenital Phimosis and Adherent Prepuce.”<sup>3</sup> Sayre was serving as Vice-President of the

AMA, an institution of which he was later made President, so this was likely a bully pulpit from which to declare his latest innovative use of circumcision.

Sayre was a prominent figure in the 19<sup>th</sup>-century American medical scene. In addition to his position at the AMA, he held a professorship at Bellevue Hospital that was the first chair of orthopedic surgery in the United States. An inventive surgeon, his operative practice was augmented by various devices of his own design, which he illustrated in the book *Spinal Disease and Spinal Curvature*, the first surgical monograph to feature patient photographs. He was committed to education, and his published *Lectures on Orthopedic Surgery and Disease of the Joints* were a staple of surgical libraries. Sayre was equally committed to the public health, and in his position as resident physician for New York City during the Civil War, he not only campaigned for such sanitary reforms as sewage disposal and smallpox vaccination, but also was credited with saving the city from a cholera epidemic in 1866.<sup>4</sup>

Therefore, when Sayre spoke in favor of a novel surgical intervention, his colleagues were inclined to credit it. In his 1870 paper for the AMA, Sayre describes the index case: that of a five-year-old boy, referred to him for severe contracture of the legs, which left the patient “unable to walk without assistance or stand erect, his knees being flexed at about an angle of 45-degrees.” Initial interventions that were considered included tenotomy of the hamstring tendons and the application of an electric current to the apparently paralyzed extensor muscles of the legs; until the patient’s nurse happened to call attention to his penis, saying, “Don’t touch his pee-pee – it’s very sore.” Sayre appreciated a severe phimosis, with “the glans...very small and pointed, tightly imprisoned in the contracted foreskin.” He “recommended circumcision as a means of relieving the irritated and imprisoned penis,” and promptly performed the surgery.<sup>3</sup>

The patient’s health improved thereafter, so that he was soon “able to extend his limbs perfectly straight while lying on his back...and in less than a fortnight was able to walk alone.” Convinced of the benefits of circumcision for treatment of paralysis and weakness of the legs, Sayre proceeded to apply this therapy to two other patients. The first was a 14-year-old boy, whom he had previously treated with “applied galvanism and electricity twice and three times a week, injected strychnia into the paralyzed muscles every tenth day, put him on iron and other tonics, and applied India-rubber muscles as assistant to the paralyzed ones...and all without any benefit.” The second “had been under homeopathic treatment for some months for neuralgia and weakness of the legs, which cause him to trip easily and fall...’because his legs would not hold him up’.” Both had phimotic foreskins, and both were completely cured of their limb disease following circumcision.<sup>3</sup>

Henceforth, Sayre became an enthusiastic advocate for the use of circumcision to treat neuromuscular disease, arguing in favor of this intervention to audiences ranging from the local New York Medical Society<sup>5</sup> to the International Medical Congress.<sup>6</sup> He published a second paper on the subject in the Transactions of the American Medical Association in 1875, augmenting his prior report with more examples of paralytic and spastic conditions cured by the performance of circumcision.<sup>7</sup> Sayre began his paper, on “Spinal Anemia with Partial Paralysis and Want of Coordination, from Irritation of the Genital Organs,” by touting the positive

reception given to its predecessor, and his boasting was not an exaggeration. By the time Sayre presented his paper “On the Deleterious Results of a Narrow Prepuce and Preputial Adhesions” the following year, he had accumulated such a collection of letters from grateful doctors nationwide, writing to him of their own successful use of circumcision to cure neuromuscular disorders, that he did not need to refer to his own practice at all, instead arguing only from the evidence of this national correspondence.<sup>6</sup>

## **Discussion**

Even after he successfully promulgated circumcision as a cure for neuromuscular disease, Sayre confessed uncertainty with regard to how this cure was affected, admitting in a lecture given at Bellevue Hospital Medical College in 1876, “I know very little of this subject.”<sup>8</sup> However, he did have a compelling theory, termed reflex genital irritation. This theory combined an older, humoral concern with the negative effects of seminal emission on men’s health, which had been recently repopularized by the French physician Lallemand as “spermatorrhoea,”<sup>9</sup> with a more modern understanding of the body as governed by nervous forces.

The evolution of Sayre’s theory of reflex genital irritation can be traced through his case reports on the subject. In his description of the index case, Sayre describes his clinical decision making as motivated by a traditional humoral concept: “As excessive venery is a fruitful source of physical prostration and nervous exhaustion, sometimes producing paralysis, I was disposed to look upon this case in the same light.”<sup>3</sup> Later, his ideas evolved into compliance with the reigning reflex-neurosis theory of disease, which posited that nervous connections between body parts reflexively influenced each other independently of a person’s will. He argued that “peripheral irritation” from the foreskin would “ultimately reflect upon the whole system and produce...the loss of controlling power.” This power was not limited to the musculoskeletal system, but also included control of behavior and intelligence, with circumcision converting a child who “was like a lunatic, an insane child,” to one capable of docility and civilization.<sup>8</sup>

## **Conclusion**

By defining circumcision as a systemic intervention, with the ability to affect cures for non-urologic and even non-physiologic disorders, and by aggressively promoting its use nationwide, Sayre positioned circumcision for its future popularity in America. Thanks to the concept of reflex irritation, the normal congenital phimosis that had previously gone unremarked in young boys was recast as a source of arousal and nervous irritation that endangered the entire organism. From this awareness, it was but a small step to conclude that patients, especially young boys who had yet to be taught self-control, would be healthier, safer, and more civilized if their foreskins were prophylactically removed.

In retrospect, Sayre’s arguments in favor of circumcision seem absurd. Medical theories of reflex neurosis have long since fallen by the wayside, and it is accepted that genital

stimulation is not in and of itself dangerous. Evidentiary standards have also evolved, from the 19<sup>th</sup>-century standard of a case report to the randomized and controlled clinical trials of today. However, the alacrity with which Sayre's arguments were accepted and applied is a chastening reminder of the temptation offered by a trendy medical theory and an accessible intervention, and of the importance of tempering enthusiasm with evidence. Little wonder, then, that even when faced with compelling new data in support of male circumcision, the AAP and other American doctors are reluctant to change existing practices.

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