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## **FROM RITUAL TO SCIENCE: THE MEDICAL TRANSFORMATION OF CIRCUMCISION IN AMERICA**

**By David L. Gollaher**

**California Health Care Institute**

The mutilation of the genitals among the various savage tribes of the world presents a strange and unaccountable practice of human ideas, which one is not able to reconcile with any reasoning power. Why such customs should be in vogue none can tell at the present time; but we must suppose that at some period they had their significance, which in the course of ages has been lost, and the practice has been handed down from generation to generation.

J. Henry C. Simes, "Circumcision" (1890), p. 375

The operation of circumcision is one which may be performed for moral reasons; one which is demanded for hygienic purposes; one which is frequently necessary for pathological conditions; and, finally, one which is of unquestionably prophylactic importance.

J. Henry C. Simes, "Circumcision" (1890), p. 383<sup>1</sup>

Since the early years of the twentieth century, neonatal circumcision has been the most frequently performed surgery in the United States. For generations in fact the operation became so commonplace that physicians and parents scarcely considered it surgery at all. By all indications, the procedure was done with little thought, as though it were simply a routine of childbirth like cutting an infant's umbilical cord. Yet in this respect America differs remarkably from Western Europe and, for that matter, from the rest of the world where circumcision generally has remained either a religious ritual or an infrequent medical intervention to treat specific diseases.<sup>2</sup>

How did a ritual surgery, older than civilization itself, become firmly enshrined in standard American medical practice? And how has an operation whose benefits have never been conclusively verified (although they continue to be hotly debated) managed to survive down to this day?<sup>3</sup>

The medical history of circumcision in the United States properly begins in New York on 9 February 1870. That morning Dr. Lewis A. Sayre was summoned by a colleague, the eminent New York gynecologist James Marion Sims, to consult on a perplexing case. "Please let me know at what hour you can come to my house to see the son of Mr. M\_\_\_\_, of Milwaukee," Sims wrote. "The little fellow has a pair of legs that you would walk miles to see." Sayre was at the time America's leading orthopedic surgeon, a renowned teacher and scholar, an authority on the anatomy of bones, joints, and muscles. Intrigued by the prospect of seeing some rare musculoskeletal pathology, he dropped what he was doing and went at once.

When he arrived, Sayre encountered "a most beautiful little boy of five years of age, but exceedingly white and delicate in his appearance, unable to walk without assistance or stand erect, his knees being flexed at about an angle of 45 degrees." Sims, it turned out, had called him in to perform a tenotomy, the desperate remedy of severing the child's hamstring tendons.<sup>4</sup>

After he examined the patient though, Sayre concluded that "the deformity was due to *paralysis* and not *contraction*, and it was therefore *necessary to restore vitality to the partially paralyzed extensor muscles, rather than to cut the apparently contracted flexors*." But the cause of this paralysis was a mystery. There was no history of injury and seemed to be no other symptoms of disease. Puzzled and determined to trace the problem to its source, he finally decided to test the boy's reflexes by applying electric current to his legs. While he was doing this, the child's nurse exclaimed, "Oh, doctor! be very careful - don't touch his pee-pee - it's very sore." An examination of the patient's genitals showed that the penis was normal, except that "the glans was very small and pointed, tightly imprisoned in the contracted foreskin, and in its efforts to escape, the meatus urinarius had become as puffed out and red as in a case of severe granular urethritis." This was, according to the nurse, a chronic condition. Often the pain awaked him at night, the child's genitals having become so sensitive that even the slight friction of bedclothes caused painful erections. Pondering this information, Sayre suddenly imagined that he knew the source of the boy's problem. "As excessive venery is a fruitful source of physical prostration and nervous exhaustion, sometimes producing paralysis," he explained afterward, "I was disposed to look upon this case in the same light, and recommended circumcision as a means of relieving the irritated and imprisoned penis."<sup>5</sup>

He was so confident of his diagnosis that he brought the boy to Bellevue Hospital in order to demonstrate the operation to his students there. The following day, after the patient was anesthetized, Sayre drew the foreskin forward and cut it with scissors. To his surprise, "the mucous portion[remained] quite firmly adherent to the glans nearly to the orifice of the urethra." So he finished the procedure by "seizing the thickened mucous membrane with the thumbs and finger nails of each hand" and tearing it away from the glans. Whatever it may have lacked in elegance, this operation seemed to produce a wonderful result. From the first day, the child's health began to improve. Color returned to his cheeks. Soon he regained his appetite, slept soundly and, most remarkable of all, within a few weeks "was able to walk with his limbs quite straight." Improbable as it seemed, Sayre postulated that "simply quieting his nervous system by relieving his imprisoned glans penis" circumcision had restored the young patient's health.<sup>6</sup>

While the five-year old was recuperating, the surgeon tried a similar experiment on the partially-paralyzed son of a prominent New York attorney. This boy was in his teens. For over a year Sayre had treated his paralysis with electricity, had "injected strychnia into the paralyzed muscles every tenth day," and had dosed him with iron and other tonics. Yet nothing had worked. Now, inspired by his new theory, Sayre recommended trying circumcision in this case as well. The worried father, who confided suspicion that his son "was guilty of masturbation," agreed without hesitation. Once again the outcome was marvelous. Within a few weeks of the operation, Sayre reported, every symptom of paralysis vanished and the lad's general health improved so dramatically that "his most intimate friends scarcely recognize him."<sup>7</sup>

In the months that followed, Sayre hypothesized that irritation of the genitals was the source of many varieties of paralysis and hip-joint disease which stubbornly defied conventional treatments. In April 1870 he proceeded to treat three young boys who had crippling hip problems by detaching the foreskin from the glans penis. "This slight operation," he wrote, "answered all the purposes of circumcision, and at once quieted their nervous irritability." Shortly thereafter, with an evident sense of discovery and excitement, he published his findings in the *Transactions of the American Medical Association*, certain that he had unlocked the secret of a host of ills. "Many of the cases of irritable children, with restless sleep, and bad digestion, which are often attributed to worms, is [sic] solely due to the irritation of the nervous system caused by an adherent or constricted prepuce," Sayre asserted. "Hernia and inflammation of the bladder can also be produced by the severe straining to pass water in some of these cases of contracted prepuce." Up until now, he told his fellow physicians, standard medical texts had largely ignored genital deformities and the debilitating irritation they caused. "Satisfied that attention of the profession has never been sufficiently directed to it," he said, "I have thought it advisable to lay before the Association the above narrated facts, in order to attract attention to the subject."<sup>8</sup>

As it turns out, his findings were not entirely original. Five years earlier an English doctor named Nathaniel Heckford had published *Circumcision as a Remedial Measure in Certain Cases of Epilepsy, Chorea, etc.* (1865). This pamphlet stemmed from his work at the East London Hospital for Children (an institution he founded) where he conducted surgical experiments similar to Sayre's several years later. But Heckford attracted scant attention in England, his paper was not published in America, and it remains unclear whether or not Sayre ever read it.

Sayre's work, on the other hand, sparked a great deal of interest. This was a tribute not only to its surprising conclusion, but also to its author's eminence and energy. "He was philanthropist and missionary as well as surgeon," remarked an early historian of orthopedic surgery. A man who proudly traced his ancestry directly back to the Mayflower, Sayre had in 1853, at age thirty-three, been appointed surgeon to Bellevue Hospital. There he rapidly made a name for himself. In 1859 his responsibilities expanded to include the New York City Lunatic Hospital on Blackwell's Island. When the Civil War broke out, the mayor named him resident physician for New York City, an office in which he campaigned for sanitary reforms, including inspection of tenement housing, proper sewage disposal, and compulsory smallpox vaccination. In 1866 he was the official who ordered the steamer *Atlanta* quarantined in New York Harbor after hearing reports that cholera had broken out on board. Working with the Metropolitan Board of Health, he was credited with helping prevent a recurrence of the devastating cholera epidemic of 1849. His professorship at Bellevue Medical College was the first chair in orthopedic surgery in the United States, and he used it as a platform for innovation. To treat spondylitis and scoliosis, for example, he designed a plaster-of-Paris body-cast for straightening the spine. His *Lectures on Orthopedic Surgery and Disease of the Joints* (1876), based on his teaching at Bellevue, went through a dozen editions, comprising the standard reference for a generation of surgeons. He was a born organizer: the prime mover in the New York Pathological Society; an officer of the New York Academy of Medicine; and in 1866 vice president of the fledgling American Medical Association (AMA). In honor of his indefatigable striving on behalf of their profession, in 1880 the medical elite elected Lewis Sayre president of the AMA. Among his lasting professional contributions was Sayre's push to upgrade the organization's published transactions, which he christened the *Journal of the American Medical Association*.<sup>9</sup>

When a man of Sayre's experience, reputation, and professional standing insisted that serious orthopedic disease could be cured by a comparatively simple operation on the foreskin, the medical world was prepared to take him seriously.

For the better part of three decades, until his death in 1900, he continued zealously to promote circumcision, discovering an amazingly wide array of benefits connected with the operation. Not only orthopedic problems, but epilepsy, hernia, and even lunacy appeared to respond. In 1875 he issued a pamphlet, *Spinal Anemia with Partial Paralysis and Want of Co-operation from Irritation of the Genital Organs*, in which he proposed that "peripheral irritation" from the foreskin could produce "an insanity of the muscles," the muscles acting "on their own account, involuntarily... without the controlling power of the person's brain."<sup>10</sup>

To prove this point, he recounted the case of an eighteen-month-old boy who was to all appearances "like a lunatic, an insane child," crying constantly, sleeping only when dosed with laudanum or morphine. The result of circumcising him was, Sayre boasted, "almost a miracle; it is beyond the power of man to comprehend it unless you see these cases from the start." Hoping that he had found a cure for certain forms of mental disorder - the most elusive of illnesses - Sayre made several expeditions to the Manhattan State Hospital's Idiot Asylum on Randall's Island where he "carefully examined the external genitals of sixty-seven children, operating on a number of them." Afterward he was convinced that some boys' mental symptoms improved, but his surgical experiment ended in frustration. No patient recovered enough to be discharged from the asylum.<sup>11</sup>

Occasional setbacks did not dampen Sayre's enthusiasm though. It is a measure of the signal importance he attached to this work that, as AMA delegate to the great 1876 International Medical Congress in Philadelphia he supplemented his brilliant demonstration of hip-joint excision (of which Joseph Lister exclaimed that "this demonstration would of itself have been a sufficient reward for my

voyage across the Atlantic") by delivering a long paper "On the Deleterious Results of a Narrow Prepuce and Preputial Adhesion."<sup>12</sup>

Sayre developed his argument for circumcision during a period of dauntless surgical experimentation on the genitalia of both sexes. Reflex neurosis - the theory that there was an intricate web of nervous affinity running through the spine to every organ of the body and that, in turn, each organ had its own sphere of influence on physical and mental health - was the technical concept behind the vogue of sexual surgery. This idea rested on a theory of "irritation" whose roots lay in the eighteenth century: a mechanistic view of the body, and especially the nervous system, which attributed many diseases to pathological agitation of tissues and, later, of cells. Taking the theory to its extreme, Rudolf Virchow, the father of cell biology, suggested that irritation was the hidden cause of malignant growth of cells. At bottom, doctors found theories of irritation and reflex neurosis appealing because they suggested that inexplicable mental disorders and other baffling syndromes like neurasthenia had a discrete somatic basis. This opened up therapeutic possibilities. If irritation could be traced to its source, presumably it could also be eradicated.<sup>13</sup>

Inspired by reflex theory, beginning in the early 1870s American gynecologists, led by James Marion Sims, invented scores of new genital surgeries intended to alleviate psychological symptoms. Cutting the body to cure the mind could lead to frightening practices. Robert Battey, a young Georgia surgeon, for instance, lent his name to the so-called "normal ovariectomy." With no apparent misgivings, he removed women's healthy ovaries to relieve symptoms ranging from hysteria and neurasthenia to backache. Accepted on both sides of the Atlantic, Battey's operation was especially popular in America where, according to one scholar, it "was not a marginal procedure conducted by a handful of crackpots, but central in the arsenal of late-nineteenth-century gynecology."<sup>14</sup> Other doctors (including Sayre himself) revived the mutilating procedure of clitoridectomy, with the clitoris subjected to a variety of surgeries, manipulations, and chemical preparations. These practices were sustained in America long after they had fallen out of favor in Europe.<sup>15</sup>

On the level of theory, reflex neurosis applied both to males and females. Both sexes were thought to be subject to organic disturbances, including pelvic or genital irritations, which might portend dire consequences for body and mind. But in practice, surgery in males to suppress sexual function was comparatively rare. While it seemed permissible for male surgeons to use the scalpel heroically on women's pelvic organs, undeterred by the prospect of "unsexing" their patients, few performed castration unless they confirmed symptoms of life-threatening disease. Even if they had tried to expand sexual surgery on males, there is no reason to suppose that physicians could have overridden men's objections. Clearly, in an age prone to denigrate female sexuality, they found women more pliable when it came to the dictates of medical authority.

What is notable in retrospect, though, is that while female sexual surgery gradually declined, male circumcision eventually became standard practice. Moreover, procedures like clitoridectomy and "normal ovariectomy," even in the days of their greatest acceptance, were performed on a small minority of American women. Yet circumcision, quietly democratized in the last decade of the nineteenth century, was subsequently extended to a majority of the male population. The operation's first medical advocates were physicians who followed the logic and example of Lewis Sayre; but these men were succeeded by others who insisted that performing the surgery was salubrious and appropriate even on patients who exhibited no symptoms of disease.

Before the 1870s the primary medical indications for circumcision were cancerous lesions and phimosis, an abnormal constriction or tightening of the foreskin interfering with normal function. The rationale for surgery to remove diseased tissue or to relieve acute inflammation caused by phimosis was self-evident. Cases of phimosis severe enough to require surgery were uncommon though, and down through the ages it was considered a rare affliction. Before the 1870s, medical textbooks and journals, when they mentioned the subject at all, passed over it cursorily.

What Sayre did was to train physicians to look for genital irritation or phimosis when they were confronted by confusing, seemingly unrelated, symptoms. Before he sounded the alarm, wrote a leading

Georgia surgeon, "*congenital phimosis* and *adherent prepuce*, as a cause of paralysis, reflex muscular contraction, curvature of the spine and acquired deformity, escaped the notice of the profession." Traditionally, doctors had described phimosis a *local* ailment. Sayre, on the other hand, characterized it as *systemic*: a perpetual state of excitement, erection, and nervous irritation radiating throughout the body. As the first doctor to formulate this original theory, according to his peers, Sayre deserved "the credit of waking the profession up upon this condition of the genital apparatus." Once he had established "the reflex nervous consequences of genital irritation," noted an admiring editorial in the *Louisville Medical News*, physicians around the country quickly confirmed his observations with "facts of a similar bearing" taken from cases of their own.<sup>16</sup>

So one Louisville doctor, unable to do anything to relieve an infant's spasms and high fever, circumcised him. Two days later the baby recovered. In another case, E. P. Hurd reported examining a five-month-old who suffered from whooping cough, chronic crying, and unexplained weight loss. Upon finding that "our infantile sufferer revealed a sadly neglected phimosis," Hurd cut away his foreskin, a procedure whose delicacy he likened to resecting "the femur of a grasshopper." Before the operation, the baby's urine had contained "a copious sediment of uric acid [and] crystalline structures." Afterward this lithuria disappeared, leading Hurd to conclude that irritation from the foreskin must have been impairing renal function.<sup>17</sup>

As doctors identified a growing list of maladies as results of "phimosis and adherent prepuce," they drifted into a pattern of using these terms expansively. Part of the problem was that, except at the extremes, there were no clear guidelines for distinguishing what was normal from what was abnormal and potentially pathological. In a typical passage, Norman H. Chapman, a disciple of Sayre's who served as professor of nervous and mental disease at the University of Kansas City, suggested that while no one had tabulated the incidence of congenital phimosis as a percentage of all male births, it was bound to be much higher than people realized. At any rate, he continued, since "a long and contracted foreskin" was so often a source of "secondary complications... it is always good surgery to correct this deformity... as a precautionary measure, even though no symptoms have as yet presented themselves." In this regard, Christians stood to learn something from Jews. "Moses was a good sanitarian," Chapman observed, "and if circumcision was more generally practised at the present day, I believe that we would hear far less of the pollutions and indiscretions of youth; and that our daily papers would not be so profusely flooded with all kinds of sure cures for loss of manhood."<sup>18</sup>

Chapman's language captures an important transition in thought. Here was a physician arguing for circumcision not exclusively as a means of alleviating reflex irritation, but as a preventive, hygienic measure. New grounds for the procedure were important if it were to gain wider acceptance, because reflex theory, long suspect in some circles, fell under increasing assault. Indeed, as early as 1881, in a direct attack on Sayre, a Brooklyn doctor named Langdon C. Gray read a paper to the New York Neurological Society in which he flatly stated that "in not one of the cases of reflex paralysis supposed to be dependent upon genital irritation, which have thus far been published, is there conclusive proof of this relation of cause and effect." Implicitly, however, even a physician who had misgivings about reflex theory might still endorse circumcision as a sanitary reform.<sup>19</sup>

This was precisely the attitude of doctors like J. M. McGee. Enthusiastic after first reading Sayre's articles, he had tried to achieve similar results with paralyzed children in his own practice. To his dismay, though, circumcision was to no avail and his efforts ended in "a sad disappointment." Nevertheless, in the further trials of the operation he found that circumcision had serendipitous effects. A boy with a bad case "of tubercular meningitis was temporarily rendered less irritable, slept better, etc. One of myelitis, involving the anterior cornu, showed 'marked improvement.' One of *brass poisoning* completely cured!" McGee frankly confessed his inability to fathom how amputating the foreskin could relieve these diverse conditions. Yet in the final analysis, he resolved:

whether it be curative or not it is conservative, and removes one source of irritation from an exquisitely sensitive organ. I would favor circumcision, however, independent of existing disease, as a sanitary precaution.... (1.) The exposure of the glans to friction, etc., hardens it, and renders it less liable to abrasion

in sexual intercourse, and consequently venereal ulcer. (2.) It is acknowledged to be useful as a preventive of masturbation. (3.) It certainly renders the accident of phymosis and paraphymosis impossible. (4.) It prevents the retention of sebaceous secretion and consequent balanitis. (5.) It probably promotes continence by diminishing the pruriency of the sexual appetite. And its performance surely settles forever the question of reflex trouble as to that particular cause.<sup>20</sup>

The phrase "sanitary precaution," as used in this passage, intermingles a variety of physical and, more significantly, moral, social, and cultural values. One approach to unravelling these connotations has been suggested by the historical study of manners, habits, and personal comportment. Inspired by Norbert Elias's groundbreaking *Ueber den Prozess der Zivilisation* (1939; translated into English as *The Civilizing Process* in 1978), scholars like Lawrence Wright and Richard L. Bushman have endeavored to track the development and explain the significance of behavior so commonplace - spitting, farting, bathing, and so forth - that it has scarcely seemed historically significant. Cleanliness is of particular interest because, while sanitary reform as public health has been studied extensively, sanitary reform on the personal level has received less attention. Yet just as nineteenth-century Americans participated in major efforts to clean up the urban environment, they also radically changed their standards of personal cleanliness. During the course of the century, as Richard and Claudia Bushman have shown, taking baths "went from being an occasional and haphazard routine of a small segment of the population to a regular practice of the large bulk of the people." The main impetus for changes in habits of bathing derived from a deep-seated cultural transformation, they suggest, above all a yearning for gentility. Washing with soap, brushing one's hair, clipping nails, and other acts of personal cleaning and grooming slowly came to exemplify superior cultivation, literally separating the washed from the unwashed.<sup>21</sup>

Americans gave a new twist to John Wesley's famous saying that cleanliness is next to godliness. Increasingly they identified personal cleanliness with good morals, sound health, and upright character. So the Victorian moralist William A. Alcott admonished his readers "that he who neglects his person and dress will be found lower in the scale of morals, other things being equal, than he who pays a due regard to cleanliness."<sup>22</sup> The same argument could be applied broadly. During the later Victorian period, an age obsessed with racial and social hierarchies, there was an allure to ranking civilizations, peoples, and social groups from clean to dirty. Used increasingly by the middle class as a caliper of moral judgment and evidence of material prosperity, "cleanliness indicated control, spiritual refinement, breeding; the unclean were vulgar, coarse, animalistic. Cleanliness, in other words, became an essential criterion of social respectability. Dirt was seen as a moral, and thus a social, hazard whose dangers people would strive assiduously to avoid."<sup>23</sup>

The changing cultural significance of cleanliness provides a context for understanding the popular acceptance of circumcision; but it does not explain why, if people were newly attentive to genital hygiene, in this instance surgery replaced soap and water. Most other industrial nations, at different times, underwent transformations in personal cleanliness without resorting to routine circumcision. In most Western European nations better standards of cleanliness called merely for washing more thoroughly and more often. What happened in America (and to a large degree in England, where Sayre also lectured, published, and was in 1877 decorated by the British Medical Association) revolved around a profound reconsideration of what was clean and what was dirty.

Recently there has been growing debate among historians of medicine about the ideas and activities that defined public health at the turn of the twentieth century. In Paul Starr's view, for example, this period was a watershed. He described it as a time when the focus of health shifted from the environment to the individual, from the prerogative of public health laymen to physicians who, in turn, became ever more specialized. As for the authority and prestige of the medical profession, the theory that diseases were spread by microbes was a godsend. For it implied that only the specialized training of physicians equipped a person to master the wonders of the invisible realm of bacteriology. Anxious about the status of their profession and eager to build their private practices, this argument goes, physicians in the 1890s displayed declining enthusiasm for conventional, environmentally-based public health activities.<sup>24</sup>

Evidence from newer studies, however, suggests that there was not a smooth transition at all. Germ theory, at least as far as clinical practice was concerned, appears to have caused a great deal of confusion within the medical community. In the first place, few doctors had enough scientific training to understand the new theory. And even those who did had little understanding of how to apply it to individual patients. The history of physicians' responses to the violent epidemic of polio that swept the country just before World War I is a history of intellectual bafflement and chaos in the face of danger. Although the virus and its means of transmission were not understood, public health officials were determined to act forcefully. So they patched together policies based on sanitation, personal hygiene, and quarantine of infected patients. Bewildered by a mysterious disease, doctors relied on whatever tools were at hand, seldom stopping to ascertain whether or not their methods were efficacious.<sup>25</sup>

Surgery was the most potent weapon in the medical armamentarium, and it found a new and important role in public health. With characteristic zeal, for example, Rhode Island health official Charles V. Chapin reminded his colleagues of the potential epidemiological benefits of the operations they performed. If doctors wanted to inhibit the spread of childhood diseases, he announced, it was "more important to remove adenoids from the child than it is to remove ashes from the back yard." As though acting on Chapin's suggestion, public health physicians in New York briefly tried performing cholecystectomies on carriers of typhoid fever, surgically removing the organ thought to carry the infectious bacteria.<sup>26</sup>

For many laymen and physicians, germ theory elicited an image of the human body as a conveyance for all manner of dangerous microbes. Germ phobia helps explain why, at the end of the century, one sees a popular fixation on the dirt associated with the bodily functions of human beings: their excrement, urine, blood, pus, and other secretions. Owing to their function, even in a healthy state genital organs were closely identified with "dirty" waste products of the body. Accordingly, they were often found dirty by association, a prejudice betrayed in the words physicians chose for describing genitalia. Beginning sometime around 1890 medical writers adopted the habit of portraying the penis as though it were intrinsically a source of contamination. Using a term that had formerly been reserved for contagious diseases, for instance, a St. Louis physician named Jonathan Young Brown went so far as to label smegma "infectious material"<sup>27</sup> (Ironically, Brown appears not to have realized that the word "smegma" derived from Greek and Latin words for cleansing and soap.) From this premise it followed that circumcision should be considered preventive medicine and practiced universally as a matter of public health.

At the end of the nineteenth century the most strident champion of universal circumcision was a physician and public health official named [Peter Charles Remondino](#). Like Lewis Sayre, he was an activist within his profession - vice president of the California Medical Society, and an official of the Southern California chapter of American Public Health Association. In the early 1880s he ran across Sayre, whom he celebrated as "the Columbus of the prepuce," the scientific explorer who charted "this territory [which] Hippocrates and Galen overlooked." Fascinated by the simplicity of an operation seemingly so rich in benefit, and determined to carry the good news to a wider audience, Remondino spent the next several years scouring libraries to research his magnum opus, *History of Circumcision*. Despite its title the book offers much less history than polemic. The author knew full well that patients willingly submitted to surgery in cases of injury or distress; "but such a thing as surgery to remedy a seemingly medical disease," he wrote, "or what might be called the preventive practice of surgery, is something they cannot understand." He intended to change their minds. Thus, for more than three hundred closely-printed pages, he ransacked world history, piling up evidence, as he put it, "to furnish my professional brothers with some embodied facts that they may use in convincing the laity... that circumcision is absolutely necessary."<sup>28</sup>

To a modern reader, Remondino's "facts" appear to be a rambling, slapdash collection of folklore, conjecture, opinion, and pseudo-science. Hardly more scrupulous a scientist than he was an historian, he had absorbed just enough of Darwin to infer that the foreskin was a primitive vestige of the evolutionary past. "With improvement in man's condition and his gradual evolution into a higher sphere," Remondino confidently insisted, "the prepuce became a superfluity." And a nefarious one at that.

The prepuce seems to exercise a malign influence in the most distant and apparently unconnected manner; where, like some of the evil geni or sprites in the Arabian tales, it can reach from afar the object of its

malignity, striking him down unawares in the most unaccountable manner; making him a victim to all manner of ills, sufferings, and tribulations; unfitting him for marriage or the cares of business; making him miserable and an object of continual scolding and punishment in childhood, through its worriments and nocturnal enuresis; later on, beginning to affect him with all kinds of physical distortions and ailments, nocturnal pollutions, and other conditions calculated to weaken him physically, mentally, and morally; to land him, perchance, in jail or even in a lunatic asylum. Man's whole life is subject to the capricious dispensations and whims of this Job's-comforts-dispensing enemy of man.

Born with "this unyielding tube," he estimated, ninety-five percent of uncircumcised men suffered some degree of phimosis. Although he accepted Sayre's claims at face value, Remondino was prepared to go much farther, contending that the most common diseases associated with the foreskin were not matters of reflex neurosis at all. These included rheumatic disorders, asthma, Bright's disease and other renal infections, and more ominously, impotence, malignant epithelioma and syphilis. In light of these perils, he asserted, "life-insurance companies should class the wearer of the prepuce under the head of hazardous risks."<sup>29</sup>

The connection between cancer and the foreskin had been a matter of concern for years. As early as 1878, in his classic treatise on surgery, John Ashurst, Professor of Clinical Surgery at the University of Pennsylvania, had included among the dangers of phimosis increased susceptibility to venereal infections and "predisposition to the development of malignant disease of the part." Among regular doctors in the 1880s and 1890s, the most popular theories of cancer held that inevitably it was "excited," as Sir Herbert Snow said, by "some continued mechanical irritant." Different organs of the body were susceptible to various irritants. Simple deduction seemed to indicate that venereal lesions like chancre presented convenient sites for cancerous irritation. By the end of the century, although no scientist had been able to trace a precise etiology, surgeons took it for granted that irritation from the foreskin was "a predisposing cause to epithelioma of the penis."<sup>30</sup>

Circumcision as a safeguard against malignancies was an idea with considerable appeal, for, like their descendants a century later, Victorians were horrified by cancer. The awful public ordeal of General Ulysses S. Grant, who died from what his doctors called "an epithelioma" of the soft palate, transfixed the public and the medical community alike. Post-mortem analysis convinced Grant's physicians that his disease had been caused by irritation, in his case irritation in the mouth and throat from years of smoking cigars. Epithelioma, one of his doctors announced, "as a rule starts from local irritation, and unlike other forms of cancer, is not dependent upon hereditary disposition to the disease." Penile cancers were said to develop according to similar principles. Thus, in a world bereft of effective therapies, the finding that in many cases of penile cancer it had been demonstrated "conclusively that the prepuce is the inciting cause as well as the initial point of attack" became an influential argument to operate before disease struck."<sup>31</sup>

Venereal infections, owing to their virulent contagiousness and social stigma, were feared nearly as much as cancer. Syphilis in particular raged out of control, seeming to approach epidemic proportions. During the 1880s and 1890s medical researchers made great strides in understanding the pathology of syphilis, and later gonorrhea. Therapeutics, however, lagged dismayingly behind. The virtues of chastity were widely celebrated in theory, but unpopular in practice. Into the early years of the twentieth century physicians continued to rely heavily on mercury to treat syphilis, employing a variety of treatments which systematically poisoned their patients.<sup>32</sup>

Given how few weapons physicians possessed to fight venereal diseases, their hopes that circumcision might provide prophylaxis are understandable. In his treatise on surgery, John Ashurst observed that phimosis "apparently renders its subject more liable to various forms of venereal infection, and becomes a serious complication when venereal diseases are acquired." A Chicago surgeon, A. C. Williams, reported that of the more than 400 circumcisions he had performed, at least half had been done to cure genital herpes. "Many men who have herpes imagine they have syphilis, and with or without the advice of a physician take constitutional treatment," he wrote. "I would follow in the footsteps of Moses and circumcise all male children." J. Henry C. Simes, noting that venereal diseases were markedly less prevalent in Jews than gentiles, agreed. Circumcision, he reasoned, "causes the epithelial covering to



become more of the nature of the skin rather than that of the mucous membrane," and therefore more resistant to venereal microorganisms.<sup>33</sup>

That circumcision prevented cancer and syphilis seemed to be born out by an epidemiological study of American Jews published in 1890 and summarized the following year in the venerable *North American Review*. "On the Vital Statistics of the Jews," written by the distinguished physician John S. Billings, brought to light statistics from the 1880 Census. "Death-rates of this race are lower, he observed, "they have fewer still-born children, greater average longevity, and [are] less liable to certain forms of disease than other races." Billings reported, for example, that the incidence of cancer among Jews was 6.48 per 1000 compared to 10.01 per 1000 for the general population. Also, the "defective classes" - insane, idiots, epileptics - represented a comparatively tiny minority of Jews. Billings's work inspired other public health studies that confirmed low rates of morbidity, including syphilis as well as infectious diseases like diphtheria and tuberculosis, within Jewish communities, even among the poorest classes.<sup>34</sup>

Searching for physiological reasons to explain why Jews were healthier than other ethnic groups, a number of physicians theorized that their lower morbidity and mortality reflected the benefits of circumcision. Above all, the incidence of penile epithelioma and syphilis among Jews was strikingly lower than among gentiles.<sup>35</sup> Jewish physicians, whose attitudes toward circumcision were partly shaped by their own cultural experience, found this evidence especially compelling. In addition, since Jews were disproportionately represented at the higher levels within medical societies and medical institutions, there was an influential minority of doctors who welcomed research that vindicated their religious customs. "Judaism has made religion the handmaid of science," wrote a leading Jewish doctor and public health researcher. "It has utilized piety for the preservation of health." Many Jews must have wondered, though, when they read Remondino's assertion that circumcision "is the real cause of the differences in longevity and faculty for enjoyment of life that the Hebrew enjoys in contrast to his Christian brother."<sup>36</sup>

Emulating an ancient Hebrew ritual, let alone a ritual that involved cutting the penis, might seem to have been a strange innovation for a nation as dedicated to its image as a Christian people as America was. But it was at this point that the medical profession began to draw a sharp distinction between ritual and medical circumcision. Starting in the early 1890s, as physicians were recommending and performing the operation more and more frequently as a neonatal routine, they mounted an attack on the Jewish rite of *Berith Milah* or *Bris* as primitive, unsanitary, and potentially dangerous. B. Merrill Ricketts, a Cincinnati surgeon who kept careful records of the hundreds of circumcisions he performed, quoted one of his fellow doctors who lamented the barbarism of "lower class" immigrants. "The orthodox Jews have the habit of taking the organ into their mouth," he wrote in disgust, "and sucking the blood after the operation has been performed."<sup>37</sup>

Stories of repulsive ritual practices, occasional reports of infection, gangrene, tetanus in a Jewish infant who had been circumcised "in a very primitive manner," and even reflex irritation *caused* by a clumsy operation stirred a growing chorus of opposition within the medical establishment. The procedure should be performed "only by medical men and in a surgical manner," contended a leading New York physician. Poorly trained and ignorant of modern techniques, he wrote, ritual circumcisers frequently communicated tuberculosis, syphilis, and other contagious microbes to infants. In an effort to constrain irregular operators, Ohio doctors organized to introduce a bill into the state legislature which would have outlawed ritual circumcision entirely. Presumably because it violated the First Amendment, the measure never gained enough support to come to a vote. Still, in some quarters the prospect of regulation - which obviously had the potential to shift a good deal of business from unlicensed Mohels to regular Jewish physicians continued to hold a certain appeal. In New York, for example, Harry Levien proposed a state law requiring that "at each and every operation, a duly registered and practicing physician shall be present,... shall superintend the operation, and shall be the responsible party."<sup>38</sup>

The aim of proposed restrictions was to make surgery safer, as one doctor urged, "by having the operation performed by a physician under antiseptic conditions." But talk of new laws prompted one prominent Jewish doctor to quip that circumcision had become "the *bête noire* of our progressive Hebrew physicians imbued with the spirit of Listerism." He insisted that in fact the Mohels were fully abreast of

modern techniques, their "armamentarium not complete without a bottle of carbolic and a strip of iodoform gauze." If infection were a problem anywhere, he added, "we venture to say that in the best modern hospitals, where Listerism is carried out in a most rigorous way, sepsis occurs a hundredfold more than in the small crowded room where the Mohel is surgeon-in-chief." Could the explanation be, he asked, that in contrast to most physicians, the Mohel was adept at cutting quickly and precisely, suppressing bleeding, and dressing the wound before infection had a chance to set in?"<sup>39</sup>

While squabbles over ritual circumcision gradually faded from the picture, the underlying issue they broached concerning the risk of the operation was virtually ignored. Occasionally voices were heard calling for restraint, but they were surprisingly rare. One doctor in Brooklyn, N. M. Shaffer, lashed out at "indiscriminate circumcision" performed on infants and children who presented no symptoms of disease. Sir Herbert Snow, a prominent London cancer surgeon, published a pamphlet which received some attention in America condemning "the barbarity of circumcision as a remedy for congenital abnormality." And in 1894 an editorial in the New York *Medical Record*, the Medical Society's official publication, ventured the opinion that "circumcision is a relic of barbarous and semicivilized times, before soap and water and sanitation had been preached.... In these days physicians should cease to preach or to impose upon their patients an unnecessary and irrational mutilation." But these were distinctly minority opinions. Moreover, with the exception of one editorial even the *Medical Record* appears to have been solidly in favor of circumcision, publishing dozens of papers extolling the benefits of the operation and promoting new surgical techniques.<sup>40</sup>

In order to persuade healthy men to submit to having their foreskins cut off (or parents to make the decision on behalf of their children) surgeons needed to convince them that circumcision was a minor procedure, neither dangerous nor unduly painful. Two major advances, one theoretical and one technological, allowed this case to be argued with increasing plausibility.

One of these was germ theory and the movement toward antisepsis and asepsis it fostered. Lister's original work on bacteria was published in the 1860s. Nevertheless, it took a generation for his insights, cautiously studied and refined by American doctors, to produce aseptic surgery. By 1890, with hospital contagion no longer the deadly menace it had been just a few years before, the medical world was in the early stages of an unprecedented boom in surgery. Not incidentally, this boom concentrated surgery within the hospital operating room. When Lewis Sayre performed his pioneering circumcisions for paralysis in the early 1870s at Bellevue there were fewer than 200 hospitals in the United States; forty years later there were more than 4,000, many of them for-profit ventures owned by physicians. "To many surgeons," the historian Charles E. Rosenberg has remarked, the modern hospital "was beginning to seem the only ethical place to practice an increasingly demanding art."<sup>41</sup>

The other, perhaps equally important, breakthrough was improved anesthesia. Ether had made its grand entrance into medicine in the amphitheater of the Massachusetts General Hospital in 1846. Through the Civil War era, however, anesthetics - ether, nitrous oxide, and chloroform, among others - remained dangerously unpredictable, and their use was controversial within the medical profession. Not until the 1880s did medical scientists introduce a variety of new drugs and safer techniques. In 1885, for example, William Halstead invented a hypodermic cocaine nerve block that could be used as a local anesthetic with little or no systemic effect. The result of improvements like this was vastly to lower the threshold for surgical intervention.<sup>42</sup>

Lewis Sayre, an orthopedic surgeon who had long experience with anesthesia, chloroformed the patients he circumcised without hesitation; and he reported no bad outcomes. But many others were leery of general anesthetics, especially in cases involving infants and young children. For them cocaine, administered locally, appeared to offer the perfect answer. C. Knox-Shaw spoke of giving a child "a few whiffs of chloroform, and at the same time twelve to fifteen minims of four per cent solution of cocaine... injected into the prepuce, about the level of the corona, in two or three places." Noting that over the years many of his patients had backed out of circumcision at the last minute "because I could not promise 'that it would not hurt,' " G. W. Overall said that by injecting cocaine "now I can promise an operation where a child would not even know it until it was performed." Indeed, he cited a recent case in which he had

operated painlessly on a six-year-old boy "while he was discussing with his mother the kind of toys he would get for Christmas."<sup>43</sup>

Others were less fortunate though. Although physicians seldom documented the suffering that resulted from their actions, and almost never published their failures, still, in the shadows of their journal articles one catches disturbing glimpses. "The text-books on surgery seem to imply that a circumcision is the simplest of procedures," Samuel Newman wrote in the *Journal of the American Medical Association*. "The operation, however, is often troublesome." Among common postoperative complications he listed inflammation, swelling, bleeding and hematoma. Jonathan Young Brown remarked that every surgeon who ever performed circumcision "has doubtless been struck with the fact, that almost invariably after the operation, the loose connective tissue lying between the remaining connective mucous and skin surfaces, become suddenly edematous, greatly swollen and occasionally almost tumefied. This condition delays or destroys union by the first intention, disfigures the part and renders the patient very uncomfortable." Sounding a theme that appears time and time again, Henry Simes wrote that as safe as circumcision was, there were nonetheless occasional problems. He had witnessed one instance where a colleague had used hydrochlorate of cocaine, and "although the patient did not die, yet the effect was such that the operating surgeon then and there determined never to use the drug again for a similar operation." By the same token, he also had seen cases "when the surgeon, in operating, removed a portion of the glans."<sup>44</sup>

To help prevent surgical mishaps, medical journals published dozens of articles on new techniques and medical devices designed to render the procedure foolproof. Advertising his "circumcision scissors," for example, Simon Baruch noted the proliferation of specially-designed "clamps, forceps, and scissors" being offered to physicians. Only the imagination of surgeons limited the development of new and ingenious methods of performing the operation. John W. Ross's description of "An Easy and Ready Method of Circumcision" is representative of the trend toward gadgetry. He contrived to insert "the glans penis up to the corona into the open mouth of a glass tube; tie a strong, small silk cord very tightly around the foreskin immediately in front of the flange of the tube; amputate the foreskin one-eighth of an inch in front of the constricting cord by a circular sweep of the knife; untie dressing; and keep the patient in bed, with penis elevated, for from twenty-four to forty-eight hours."<sup>45</sup>

Despite physicians' insistence that it was a minor procedure, circumcision seems to bear out the old adage that the only minor surgery is an operation performed on someone else. Understandably, unless they suffered disturbing symptoms, most men were reluctant to submit to the scalpel. While no reliable statistics have surfaced for estimating the rate of medical circumcision at the turn of the century, the impression conveyed by dozens of articles in the contemporary medical literature is that the patients were mainly symptomatic middle- and upper-class children and teenagers. B. Merrill Ricketts kept the Cincinnati Medical Society apprised of his work in this field. In an 1894 paper, "The Last Fifty of a Series of Two Hundred Circumcisions," he listed twenty-eight indications for the operation ranging from local (phimosis) to systemic ("general nervousness"). During this period, though, it is evident that physicians did not take consumer acceptance for granted. They expected skepticism, and refined their arguments to overcome it.<sup>46</sup>

Meanwhile they discovered another group of patients who had no voice in the matter. From the mid 1880s onward physicians and, at their behest, parents, came to suppose that the theory and practice of circumcision applied most ideally to infants. "Circumcision," performed on babies, wrote a New York doctor, "is no more of an operation than vaccination." And as the Jews had long since discovered, babies needed no chloroform or cocaine. "Infants only a few years old may be held down by two assistants and the operation done without any anesthetic, Samuel Newman advised. For his own part, Newman preferred to bind his young patients "to a board after the Indian fashion of strapping the papoose... to hold the child firmly in place until the operation is ended."<sup>47</sup> If one acknowledged the scores of benefits that circumcision was supposed to produce, it was logical to operate early, before diseases and bad habits had a chance to take hold.<sup>48</sup>

This aggressive medical intervention was but one aspect of a sweeping change in the medical approach to children. Concerned about new statistics published by public health agencies which documented shocking rates of infant mortality, especially in urban areas, the medical profession reorganized itself to

combat the diseases of childhood. In 1880 under President Lewis Sayre's aegis, the AMA instituted a new section of pediatric medicine. Four years later the first specialist journal devoted to children's medicine appeared, the *Archives of Pediatrics*; and in 1887 the American Pediatric Society held its first meeting. The hallmark of the new pediatric medicine was medical reassessment of all facets of children's minds and bodies, and intrusion by physicians into areas that formerly had been the private domain of families. Perhaps the best-known example of physician activism was the baby feeding controversy. Inspired by the hope of saving America's babies, many doctors challenged the safety of mother's milk and concocted an assortment of new products and techniques to replace breast feeding.<sup>49</sup>

What provoked this movement were data showing that diarrheal disorders were among the leading causes of infant mortality and were responsible for as many as one of every four deaths. This finding also supported the argument for early circumcision. By eliminating a source of irritation on the nervous system - the foreskin - the operation was held to aid a baby's digestion, thereby improving his chances for survival. In a notable article, J. A. Hofheimer reported success in using circumcision to cure both fecal incontinence and constipation. Encouraged by his results, he recommended operating at once, before symptoms had a chance to appear. "An early operation," he wrote, "will relieve the child of a great source of irritation, and indirectly improve nutrition; changing a fretful, puny baby into a thriving, happy infant." Putting this advice to a test in the case of a child with urinary and fecal incontinence, H. L. Rosenberry confessed that he had no idea why it worked, but the patient soon became healthy and robust. "I am at a loss to explain the process, but simply relate it as a fact."<sup>50</sup>

Thus, in the formative period of modern scientific medicine - "experimental, active, manipulating its data by main force, given to speak not of concomitants and symptoms but causes of disease, and crowned by success in prevention and treatment," as Donald Fleming has portrayed it - one finds leading physicians contriving a rationale for circumcision based on old-fashioned empiricism. Even as the theories of Koch and Pasteur propelled science toward the principle of specific causation, doctors defended circumcision, using hypotheses which had formerly been used to justify practices like bloodletting. In the midst of the "therapeutic revolution," one finds that the treatments physicians used had little connection with the rigorous scientific methods and high standards of scientific proof which were the watchwords of academic medical research. Of course a clinician like Lewis Sayre, who performed surgical experiments of therapeutic intent and tracked the results as best he could, would have strenuously argued that his work was every bit as scientific as researchers like Paul Ehrlich, who worked in laboratories in search of verifiable truths.<sup>51</sup>

Then as now, researchers and clinicians held competing notions of science. Seen from the cold objectivity of the laboratory, clinicians appeared satisfied to treat patients on the basis of hypotheses that were very far from proven using any reasonable standards of scientific proof. On the other hand, from the perspective of the clinic, the most important and compelling facts came from observing the results of treatments on individual patients. For the average physician, knowing what worked to cure patients and being able to apply that knowledge in a procedure, was far more important than understanding the principles of biology. In this respect, circumcision was equally an anachronism and a quintessential product of its age. It was an operation whose healing power laboratory research could not explain, yet one that continued to be supported by abundant medical testimony.<sup>52</sup>

An omnibus procedure, supposedly effective against dozens of disorders which were widely feared yet poorly understood, circumcision lent itself naturally to sexual diagnoses, which in turn helped complete the transition to routine care for male infants. Late Victorian America was of course notoriously ill at ease with human sexuality. The infamous Comstock Act of 1873 captured an attitude toward sex, awkward and censorious, which was widespread within the middle and upper classes. For a culture nervous about sex, manifestations of infant and child sexuality seemed especially disturbing, contradictions of children's pristine purity. In ages past, the most common expression of sexuality in children - masturbation - seldom had caused much comment or concern. Amidst a general transformation of sexual attitudes in the middle decades of the nineteenth century, however, the popular view of masturbation darkened. Since the Enlightenment, doctors in Western Europe and America had identified masturbation as a cause of illnesses. In the course of the nineteenth century it was linked to madness, idiocy, epilepsy, and from these to a

multitude of other psychological, behavioral, and pathological conditions. "The most serious forms of disorder attributable to this cause are *spinal paralysis, locomotor-ataxia, and convulsions*," declared a physician at Virginia's South-Western Asylum. "Besides these, masturbation, does occasionally, induce an intractable form of insanity." This was so-called "masturbatory insanity," a label many American and British physicians used for psychotic illnesses they could not otherwise classify. For ages the Catholic Church had taught that masturbation, because it existed apart from marriage and procreation, was a mortal sin. But the medical theory that masturbation caused disease presented a more immediate threat. Fittingly in the age of Darwin, biology joined God as the punisher of transgression.<sup>53</sup>

The evidence for this view, which was surprisingly well accepted, was derived in part from physicians' experience with mentally ill patients. It was unnerving, one doctor wrote, to see that among the feeble minded their "hands seem instinctively drawn to those parts." So logic seemed to indicate that masturbation somehow led to feeble-mindedness. As Remondino said, "it may be a question as to whether the feeble-mindedness be not a reflex condition from this excessive morbid irritability of the sexual organs." Other commentators, pediatricians prominently among them, warned parents that the habit of masturbation was often learned in infancy, and that the foreskin was chiefly to blame. "The fact that children under two years of age can and frequently do contract the habit of masturbation is a revelation to many physicians," declared J. P. Wester in a paper he read to the Ohio Pediatric Society. He went on to profile a typical masturbator: a three-year-old boy who was "small, had a scowl on his face, looked wearied and bloated; he was nervous and fretful, a poor eater and a very poor sleeper." The sickly child had developed his habit before he was a year old, according to Webster, evidently "due in the first place to the condition of the prepuce."<sup>54</sup>

One physician who described a successful circumcision of an infant to cure urinary tract lithuria also remembered having detected similar "oxalic acid deposits in the urine of masturbators, and *offspring-shunning husbands*, who practice onanism." This observation not only reconfirmed the theory that masturbation was connected with neurasthenic disease but, more important, implied that masturbation was itself less a moral failing than a response to a basic physiologic aberration. In the view of many practitioners, masturbation became an intermediate link in a chain of cause-and-effect that originated in the foreskin. Writing in support of this theory in the prestigious Philadelphia *Medical Bulletin*, a physician who specialized in treating neurasthenia claimed that in a sample group of 192 men with nervous disease, "including neurasthenia in all its varieties, epilepsy, etc., there were 60 cases of phimosis or redundant foreskin."<sup>55</sup>

When in 1896 a popular book, *All about the Baby*, advised mothers that circumcision of baby boys was "advisable in most cases," it recommended the operation mainly for preventing "the vile habit of masturbation." L. Emmett Holt, professor at the College of Physicians and Surgeons, and a distinguished expert on pediatric medicine, told his fellow physicians that "adherent prepuce... is so constantly present that it can hardly be called a malformation. It is, however, a condition needing attention in every male infant." The perils of neglect, he said, included "priapism, masturbation, insomnia, night terrors, etc.," and for that matter, "most of the functional nervous disease of childhood." Remondino, for his part, was certain that "circumcised boys may, in individual cases... be found to practice onanism, but in general the practice can be asserted as being very rare among the children of circumcised races... neither in infancy are they as liable to priapism during sleep as those that are uncircumcised."<sup>56</sup>

Strange as it may seem in light of their using circumcision to suppress masturbation, Remondino, along with many other physicians, also endorsed circumcision as prophylaxis for impotence. Recently some scholars have argued that middle- and upper-class men in late Victorian America suffered a sexual crisis typified by fears of impotence and lost manhood.<sup>57</sup> Whether or not impotence and anxiety about impotence became more widespread, and can be correlated with broad social changes in the 1890s, remains a point of debate. But it is clear that impotence, a condition commonly devoid of any specific pathophysiological cause, fit neatly into the medical framework that supported circumcision. After all, phimosis and paraphimosis (the latter being a condition in which, according to one surgical textbook, "the prepuce gets behind the corona glandis, threatening the strangulation of the organ") were thought to predispose boys to impotence and sterility. "Sexual relations are much more to man or woman than is generally

acknowledged," Remondino declared. And he maintained that freeing the male organ from "a constricting, unnatural band" would surely enhance sexual performance and pleasure.<sup>58</sup>

In the early years of the twentieth century circumcision moved steadily toward becoming standard practice for well-trained physicians. Statistics are hard to come by, but on the eve of World War I a physician making a case for "Universal Circumcision as a Sanitary Measure" in the *Journal of the American Medical Association* estimated the number of children who had undergone the procedure in the "millions." He surveyed medical opinion around America, and in Britain as well, and concluded that "the vast preponderance of modern scientific opinion on the subject is strongly in favor of circumcision as a sanitary measure and as a prophylactic against infection with venereal disease." The few objections that lingered were not against removing the foreskin, "but against those persons who fail to do it properly." Articles published on the subject through the 1920s support this view. For the most part, the question about whether to circumcise was treated as a *fait accompli*. All that remained was to establish the best technique.<sup>59</sup>

The main goal of perfecting a surgeon's technique was to produce an attractive result. Aesthetics were not incidental, for a critical aspect of circumcision's popularity was that it became a mark of social distinction. In the early twentieth century it was the social significance of the operation which allowed circumcision to flourish long after the sanitary movement had lost its way. While it was hardly a topic of discussion in polite society, some leaders within the medical profession characterized the procedure explicitly in class terms. Reminding his readers that the earliest recorded circumcisions occurred among the caste of priests in Old Kingdom Egypt, Peter Remondino drew an analogy between ancient and modern practice. In the year 1892 he declared, although it was far from routine, there was "a class which also observe circumcision as a hygienic precaution, where, from my personal observation, I have found that circumcision is thoroughly practiced in every male member of many of the families of the class, - this being the physician class." Whether as a result of their medical training or of seeing at first hand "the many dangers and disadvantages that follow the uncircumcised," he said, American physicians were subjecting themselves to the procedure. And having done so, "instead of being dissatisfied, they have extended the advantages they have themselves received, by having those in their charge likewise operated upon." According to this view, the trend was inspired by a kind of medical priest class who persuaded their private patients of what Richard Bushman has called "the utility of emulation."<sup>60</sup> Class distinctions - particularly a distinction bearing connotations of science, health, and cleanliness - assumed growing importance around the turn of the century. For the new immigration then surging in from Southern and Eastern Europe, flooding the industrial centers in the Northeast and Midwest, drastically changing the human geography of American cities, confronted old-stock Americans with a crisis of cultural identity. Shocked by the influx of foreigners, the guardians of American purity scorned them as racially inferior. Metaphorically, the new immigrants were depicted as refuse spewed from the sewers of the old world, a human wave of filth and pollution. This lurid rhetoric, which was used to support severe restrictions on immigration, fueled a national obsession with contamination and, alternatively, with sanitation. This filth people eschewed was a rich cultural stew. For as anthropologist Mary Douglas has shown in her classic study, *Purity and Danger*, pollution beliefs are fraught with symbolism, furnishing cultures with "analogies for expressing a general view of the social order." Clean and the unclean are, along with everything else, expressions of hierarchy and measures of social distance.<sup>61</sup>

Medical circumcision thus assumed its own place in the fin-de-siècle search for rank and social order. It signified precisely that aversion to dirt - and not just dirt, but vulgarity, nasty habits, and diseases - which symbolically set one on a higher plane. Undoubtedly this was the enduring source of its appeal to patients and parents. Outside Judaism, circumcision was exclusively the province of doctors and patients with enough money to pay for an elective procedure. Physicians privately suggested it to parents immediately after the birth of a son. Circumcision, they professed, represented state-of-the-art medical knowledge and surgical practice. The operation itself was simple, eminently safe; moreover, it immediately reduced the infant's chances of becoming infected with the deadly diseases of childhood.

With each passing year maternity care and childbirth for the middle and upper classes was shifting from a domestic event managed by midwives, relatives, and friends into a medical event managed by

physicians. Midwives rarely performed circumcisions, so having one's foreskin removed was necessarily a byproduct of having been delivered by a physician. It was a token of the medicalization of childbirth; literally a symbol of the rising authority of the medical profession over the laity.<sup>62</sup>

On a more mundane level, it promised to spare parents the ordeal of someday having to deal with masturbation - a concern likely to have elicited squeamishness from Victorian mothers. Circumcision meant that a boy's parents had given him every chance, providing him with proper medical care from the beginning. Conversely, the potential for parental guilt should one's son contract any of the terrible afflictions that circumcision was supposed to prevent was enormous. Frank G. Lydston bluntly emphasized this point in his popular 1912 treatise on social hygiene, when he wrote, "*Parents who do not have an early circumcision performed on their boys are almost criminally negligent.*"<sup>63</sup>

So it happened that the foreskin, despised by the medical profession, came broadly to signify ignorance, neglect, and poverty. As white middle-class gentiles adopted circumcision, those left behind were mainly recent immigrants, African Americans, the poor, and others at the margins of respectable society.<sup>64</sup> Despite notable advances in every branch of medicine and surgery during the twentieth century, it is this powerful social sanction that has sustained the standard practice of circumcision even after the theories on which it was founded dropped away. Once the procedure evolved to the point of becoming standard practice, it became ingrained in the collective medical consciousness, appearing too obviously salubrious to warrant formal analysis of benefits, harms, costs, and outcomes.

Considered in terms of the march of medical science, circumcision is an anomaly. But as a synecdoche for the history of clinical practice - above all of surgery - it is remarkably, not to say disturbingly, comprehensible. For, although physicians have only recently begun to recognize it, clinical practices have never been closely connected to measurable outcomes. The imposing mélange of textbooks, journal articles, specialty society papers, replete with esoteric vocabulary, computer models, and awe-inspiring photographic images - all this lends medicine and surgery an aura of organization and scientific rigor which clinical practice egregiously fails to substantiate. According to David M. Eddy, the most astute modern critic of clinical decisionmaking, the model for clinical practice policies is not the laboratory at all. A more apt metaphor is Adam Smith's classic marketplace, an ongoing exchange of competing ideas and opinions in which an "invisible hand" sets patterns of practice.<sup>65</sup>

The visible hands that treat patients are not the hands of scientists, but of practitioners whose conventions, habits, and modes of practice are molded first by watching their teachers, then their peers. This is the process of practical medical education, and also of cultural transmission.

The unscientific results of this process have only begun to come under scrutiny, most sharply in recent work on "small area variations." Studying patterns of surgical practice in different parts of the country, researchers have documented enormous fluctuations in rates of common operations like hysterectomy and tonsillectomy. These variations cannot be correlated with population demographics, morbidity, or mortality rates for the areas in question. The significant variables for predicting the incidence of a procedure, it turns out, have to do with the number of physicians operating in a specific locale and their deeply-inbred local styles of practice. In the case of hysterectomies, for example, surgeons' criteria for operating depend not on what is reported in the *American Journal of Obstetrics and Gynecology*, but on what fellow surgeons do at the local hospital.<sup>66</sup>

>From their residencies onward, most doctors discover that pressure to conform to what is considered standard within the local medical community is irresistible. In turn, these practice standards, imbued as they are with medical authority, shape patients' preferences. For patients normally presume that what doctors accept as medical policy is also the best thing to do. This deference to medical authority is especially powerful in questions involving medical technology, perhaps because, as Timothy Ferris has remarked, "science in principle has to do with knowledge, technology with power."<sup>67</sup>

The doctor-patient relationship contains a built-in mechanism of mutual reinforcement, encouraging both parties to follow the pack. With the passage of time some practices harden within medical and popular culture alike, so it becomes impossible to sort out how much demand for a procedure should be attributed to physicians and how much to patients.<sup>68</sup> In this respect, the peculiar history of neonatal circumcision in the United States exemplifies the process by which physicians, despite having no solid science of clinical outcomes, succeeded in transforming standard medical practice into social custom.

### **Postscript: Circumcision a Century Later**

Considering that the original intellectual framework for medical circumcision in the late nineteenth century, was, during the years after World War I, dismantled piece by piece, one might have expected circumcision to go the way of other surgical fads. Instead it gathered strength. During the 1970s it has been estimated that as many as 80 percent of American males were circumcised in infancy. For roughly the first two-thirds of the twentieth century routine neonatal circumcision was an unquestioned aspect of ordinary pediatric practice. Around the turn of the century, American medical textbooks and journals that used illustrations began to adopt the convention of depicting the normal penis as circumcised - a convention subsequently adopted by publishers of medical books for lay readers.<sup>69</sup>

That no scientific research validated the theory that circumcision inhibited the spread of venereal disease did not keep physicians from continuing to promote the view that it did. In the wake of World War II, for example, *Newsweek* magazine quoted Dr. Eugene Hand's address to the AMA in which he observed that whereas the "promiscuous" and uncircumcised Negro had an incidence of venereal infection of "almost 100%,... for the widely educated Jew, circumcised at birth, the venereal disease rate has remained the same or decreased."<sup>70</sup> Meanwhile in 1945, England, whose experience with circumcision before World War II was roughly similar to America's, instituted a system of universal medical coverage under the National Health Services. Since British doctors could not agree whether or not it was medically efficacious, circumcision was dropped from the list of covered services. Henceforth, parents who wanted their sons circumcised were required to pay a surgical fee. Based on army records, it was estimated that before the War 50 percent of working-class and 85 percent of upper-class Englishmen had been circumcised. Under the National Health Services the rate plummeted. By the early 1960s, the figure was thought to be less than one-half of 1 percent. More recently there has been a mild resurgence in the popularity of circumcision, accountable in part to a large number of young boys being diagnosed with phimosis. In an attempt to explain this, researchers discovered that in the Mersey Region at least, "many boys are circumcised for development non-retractability of the prepuce rather than for true phimosis and that in consequence some two-thirds of the operations are unnecessary."<sup>71</sup>

In the American system of private insurance, by contrast, payers automatically covered the costs of the procedure based on physician consensus that it was medically beneficial. Not until the 1960s, in a period of intense challenges to received wisdom and institutional authority, did American doctors seriously question the medical legitimacy of routine neonatal circumcision. Why was it, asked the editors of the *Journal of the American Medical Association* in 1963, that an operation so well accepted by practitioners for its power to "'relieve' phimosis, to 'prevent' infection, to be 'prophylaxis' against carcinoma" had attracted no interest from scientists in the medical research establishment? The biomedical community remained indifferent. Increasingly over the next several years, though, practitioners engaged their colleagues in debates about the procedure. Their arguments represent a bizarre mixture of epidemiology, opinion, prejudice, and cultural speculation. For instance, castigating circumcision as "the rape of the phallus," a physician at the University of Maryland blamed its popularity on women. "Perhaps not least of the reasons why American mothers seem to endorse the operation with such enthusiasm," he wrote, "is the fact that it is one way an intensely matriarchal society can permanently influence the physical characteristics of its males."<sup>72</sup>

A more thoughtful critique appeared in 1969 in the *New England Journal of Medicine*. In an article titled "Ritualistic Surgery - Circumcision and Tonsillectomy" a pediatrician named Robert Bolande insisted that there was insufficient evidence to justify any surgery as a preventive measure, and that cutting in the absence of disease violated the most cherished tenet of medical ethics, *primum non nocere* (first, do no harm). More systematically, the following year another pediatrician reviewed the major medical literature



on circumcision and concluded that none of the substantial medical benefits associated with it - primarily prevention of sexually transmitted diseases and cancers of the penis and prostate - could withstand scrutiny. The best that could be said for the operation, he concluded, was that "circumcision is a beautification comparable to rhinoplasty." In 1971, unable to find compelling data to the contrary, the American Academy of Pediatrics officially concluded that there were no medical grounds for routine infant circumcision, a decision that it reconfirmed four years later. Meanwhile, Benjamin Spock, whose bestselling medical guide for parents had originally endorsed circumcision, changed his mind. In light of current medical opinion, he reported, the operation seemed "unnecessary and at least mildly dangerous."<sup>73</sup>

Oddly enough, neither Spock's nor the Academy's official positions made much difference in medical practice. One reason for this is that the American Academy of Pediatrics, concerned about dissent within its own membership, did not publicize its decision. Moreover, during the same period the American College of Obstetricians and Gynecologists, a group whose members advised mothers on childbirth and themselves performed hundreds of thousands of circumcisions, refused to go along with the pediatricians. After several years of internecine quarrelling, the *American Journal of Obstetrics and Gynecology* at last issued an opinion, albeit sotto voce. Although some studies found that circumcision facilitates hygiene, prevents balanoposthitis (local inflammation of the glans), and may reduce risk of carcinoma of the penis, declared the *Journal*, other factors weighed against the operation. These included illogical bases for patient selection, lack of informed consent, disregard for pain, the performance of a radical technique in many cases by an unskilled surgeon, unclear clinical objectives, and no evidence for cost-effectiveness. "Clinicians ought to use techniques only when certain that they do good," was the reasonable conclusion. "In clinical practice physicians should not have to prove that techniques are not dangerous."<sup>74</sup>

Nevertheless, the debate continues. Old arguments about reflex irritation, phimosis and adherent prepuce are forgotten, but new theories have arisen to take their place. A few widely heralded studies have indicated that circumcision may reduce the risk of urinary tract infections in infants.<sup>75</sup> Other research has purported to demonstrate that female sex partners of uncircumcised men suffer significantly higher rates of cancer of the uterine cervix than those of uncircumcised men.<sup>76</sup> Without trying to sort out the merits of individual studies, it is worth noting that so far the cause and effect relationship between circumcision and disease prevention has not been established strongly enough to convince physicians in other industrialized democracies to incorporate it into their clinical routines. It has the distinction of being one of the few instances of American exceptionalism.

Regardless of what the journals said, American doctors in private practice have continued to place a high value on clinical autonomy and, in a new age of medical marketing, on what they perceive to be the preferences of the patients who pay the bills. Surgical fees for the five-minute operation range between \$50 and \$125, leading some critics to suggest that the profit motive has been the most important factor sustaining circumcision. Yet, for those predisposed to circumcise, there has been just enough scientific evidence to make it seem reasonable. After 1900 the demise of reflex theory did not invalidate circumcision, but opened the door for other theories. In the 1990s, masses of freshly available epidemiological data enable advocates of circumcision to formulate heretofore unimagined hypotheses.

Ironically, but predictably in the context of the history of medical arguments for circumcision, some doctors have conjectured that removing the foreskin may protect men from the most dreaded epidemic of the post-modern world: the human immunodeficiency virus (HIV). Using retrospective data (the epidemiological equivalent of empiricism) from a venereal disease clinic in Kenya, for example, researchers observed that there were higher rates of HIV infection in the home communities of uncircumcised than circumcised men. Ignoring racial, ethnic, and sociocultural variables - the chief factors dictating whether or not an African boy is circumcised in the first place - they hypothesized that circumcision might serve to inhibit the transmission of the AIDS virus. One wonders whether this theory will endure. But within a medical community desperate to find some weapon against AIDS, its appeal is understandable. Even a physician who is a sober skeptic of the methodologies behind such studies allows that they "do suggest that HIV may be more infective during heterosexual intercourse if the male partner is uncircumcised and has a mucosal or cutaneous ulcer."<sup>77</sup> AIDS, the nemesis of modern science and medicine, remains a mystery. By some equally mysterious process, it is surmised, circumcision may help.

1020 Prospect Street, Suite 310  
La Jolla, CA 92037

#### ENDNOTES

1. *Annals of Gynaecology and Paediatrics* (Philadelphia) 4 (1890-91): 375, 383.
2. Since there is no national or regional registry, it is difficult to estimate circumcision rates with accuracy. Characteristically, the American College of Surgeons omits the procedure in its *Socio-Economic Factbook for Surgery*, 1991-92, ed. Rhonda J. Peebles and Diane S. Schneidman (Chicago, 1991). Using patient records at seven major hospitals from Connecticut to Utah between 1976 and 1980, Edward Wallerstein discovered rates between 77% and 97.6%. See "The Uniquely American Medical Enigma," *Urologic Clinics of North America*, 12 (1985): 123-32. By contrast, in 1987 the National Center for Health Statistics estimated a national rate of 61 percent. Two sharply critical, although largely unhistorical, accounts of circumcision in America are Edward Wallerstein's *Circumcision: An American Health Fallacy* (New York, 1980); and Rosemary Romberg, *Circumcision: The Painful Dilemma* (South Hadley, Mass., 1985).
3. Circumcision is the earliest recorded surgery, clearly portrayed in an Egyptian tomb wall carving from around 2400 B.C., yet its origins and ritual meanings remain obscure. See Alexander Badawy's, *The Tomb of Nyhetep-Ptah at Giza and the Tomb of Ankhmahor at Saqqara* (Berkeley, 1978), 19. Evidence from mummified remains predating the Ankhmahor relief indicates that the practice had been established centuries earlier. See Aidan and Even Cockburn, eds., *Mummies, Disease, and Ancient Cultures* (Cambridge, 1980), 18, 42; and Henry E. Sigerist, *A History of Medicine*, Vol. I, *Primitive and Archaic Medicine* (New York and Oxford, 1950), 345. At different times circumcision was adopted within the worlds of Judaism and Islam, and quite independently within diverse communities of Africans, Australian aborigines, Oceanic islanders, and native tribes in North and South America. The classic ethnographic account remains Felix Bryk's *Die Beschneidung bei Mann und Weib* (1934), translated by David Berger as *Circumcision in Man and Woman: Its History, Psychology, and Ethnology* (New York, 1974). For samples of speculation on the part of cultural anthropologists, ethnographers, and psychologists see J. Morrison, "The Origins of the Practices of Circumcision and Subincision among the Australian Aborigines," *Medical Journal of Australia* 1 (1967): 125-27; Bruno Bettelheim, "Symbolic Wounds," in William A. Lessa and Evon Z. Vogt, eds., *Reader in Comparative Religion* (2d ed., New York, 1965), 230-40, and Guenter Schmidt, "Beschneidung zwischen Macht und Profitinteresse: Von 2420 v. u. Z. bis 1989 u. Z.," *Zeitschrift fuer Sexualforschung* 2 (1989):171-76.
4. Lewis A. Sayre, "Partial Paralysis from Reflex Irritation, Caused by Congenital Phimosis and Adherent Prepuce," *Transactions of the American Medical Association* 23 (1870): 205.
5. Sayre, "Partial Paralysis from Reflex Irritation," 206.

6. Sayre, "Partial Paralysis from Reflex Irritation," 206-7.
7. Sayre, "Partial Paralysis from Reflex Irritation," 207-08.
8. Sayre, "Partial Paralysis from Reflex Irritation," 210-11.
9. Arthur Keith, *Menders of the Maimed: The Anatomical & Physiological Principles underlying the Treatment of Injuries to Muscles, Nerves, Bones, & Joints* (London, 1919), 180. A succinct sketch of Sayre's career is provided by his son, Reginald H. Sayre, in Howard A. Kelly and Walter L. Burrage, *Dictionary of American Medical Biography: Lives of Eminent Physicians of the United States and Canada, for the Earliest Times* (New York and London, 1928), 1079-80. The esteem in which he was held by his contemporaries comes through clearly in the eulogies written after his death. See, for example, *Medical Record* (New York) 63 (1900): 505-06; *Boston Medical and Surgical Journal* 163 (1900): 331; *Lancet* 2 (1900): 1246. As a student, at the age of nineteen, Sayre had already embarked on his public health crusade, issuing two pamphlets, *Cholera!!! Caution to the Public* (New York Board of Health, n.d.), and *Directions to Prevent and Treat the Cholera* (New York, 1849). On the cholera scare of 1866 see Charles E. Rosenberg, *The Cholera Years: The United States in 1832, 1849 and 1866* (Chicago, 1962), 175-225.
10. "Circumcision versus Epilepsy, Etc.," *Medical Record* (New York) 5 (1870- 71): 233-34.
11. Lewis A. Sayre, "Paralysis from Peripheral Irritation, So-Called 'Spinal Anaemia'," *Medical and Surgical Reporter* (Philadelphia) 35 (1876): 305-08; Roswell Park, "Genital Irritation, Together with Some Remarks on the Hygiene of the Genital Organs in Young Children," *Chicago Journal and Examiner* 41 (1880): 567.
12. Lewis A. Sayre, *On the Deleterious Results of a Narrow Prepuce and Preputial Adhesion* (Philadelphia, 1888). Lister's remark is quoted in Kelly, *Dictionary of American Medical Biography*, 1080.
13. For an overview of reflex theory and "its breathtaking capacity to inspire meddlesomeness among doctors," see Edward Shorter, *From Paralysis to Fatigue: A History of Psychosomatic Illness in the Modern Era* (New York, 1992), 20-24, 40-68, and 86-94; the quotation is from p. 40.

14. Operations on women are the subject of G. J. Barker-Benfield, "Sexual Surgery in Late-Nineteenth-Century America," *International Journal of Health Services* 5 (1975): 279-88, and idem *Horrors of the Half-Known Life: Male Attitudes toward Women and Sexuality in Nineteenth-Century America* (New York, 1976). Barker-Benfield contends that doctors' willingness to operate on women aggressively, indeed recklessly, stemmed from their anxiety about female emancipation. Surgery, he argues, was employed as a mechanism of social repression which, because it reflected a broad social unease, found ready acceptance among middle-class men and those in power. On Battey's operation see Lawrence D. Longo, "The Rise and Fall in Battey's Operation: A Fashion in Surgery," *Bulletin of the History of Medicine* 53 (1979), 224-67; and Shorter, *From Paralysis to Fatigue*, 75-78; the quotation is from p. 78.
  
15. Andrew Scull and Diane Favreau, "The Clitoridectomy Craze," *Social Research* 53 (1986), 243-60; idem, "'A Chance to Cut is a Chance to Cure': Sexual Surgery for Psychosis in Three Nineteenth Century Societies," in *Research in Law, Deviance, and Social Control*, vol. 8, ed. Steven Spitzer and Andrew Scull (Greenwich, Conn., 1986), 3-39; Shorter, *From Paralysis to Fatigue*, 81-86.
  
16. E. E. Nichols, "Incontinence of Urine of Eight Years' Duration Relieved by Circumcision," *Medical Record* (New York) 15 (1879): 394; Everard H. Richardson, Jr., "Congenital Phimosis and Adherent Prepuce Producing Anomalous Nervous Phenomena - Paralysis of Motion, and Dementia - Operation, Followed by Permanent Relief," *Transactions of the Medical Association of Georgia* 31 (1880): 149; "Some of the Consequences of Phimosis and Adherent Prepuce," *Louisville Medical News* 13 (1882): 25.
  
17. H. Horace Grant, "Phimosis the Cause of Convulsions in an Infant," *Medical Herald* (Louisville) 1 (1879-80): 223; E. P. Hurd, "Phimosis with Lithuria; Circumcision - Recovery," *Medical and Surgical Reporter* (Philadelphia) 35 (1876): 395-97.
  
18. Norman H. Chapman, "Some of the Nervous Affections which Are Liable to Follow Neglected Congenital Phimosis in Children," *Medical News* (Philadelphia) 41 (1882): 317.
  
19. J. M. McGee, "Genital Irritation as a Cause of Nervous Disorders," *Mississippi Valley Medical Monthly* 2 (1882): 103, quotes Gray's paper. While the popularity of reflex theory dwindled after the turn of the twentieth century, there were physicians who continued to fall back on it to justify circumcision. See E. J. Abbott, "Circumcision," *St. Paul Medical Journal* (Minnesota) 12 (1910): 71-74; C. F. Anderson, "Circumcision," *Journal of the Tennessee Medical Association* 6 (1913-1914): 379-81; S. L. Kistler, "Rapid Bloodless Circumcision of Male and Female: Its Technic," *JAMA* 54 (1910): 1792.

20. McGee, "Genital Irritation as a Cause of Nervous Disorders," 103-05.
  
21. Norbert Elias, *The Civilizing Process*, trans. Edmund Jephcott, 2 vols. (1978); Lawrence Wright, *Clean and Decent: The Fascinating History of the Bathroom and the Water Closet* (New York, 1960); Harold Donald Eberlein, "When Society First Took a Bath," in *Sickness and Health in America: Readings in the History of Medicine and Public Health*, ed. Judith Walzer Leavitt and Ronald L. Numbers (Madison, 1978), 335-38; Richard L. Bushman, *The Refinement of America* (New York, 1993); Richard L. Bushman and Claudia L. Bushman, "The Early History of Cleanliness in America," *Journal of American History* 74 (1988): 1213-38 (the quotation is from p. 1214).
  
22. William A. Alcott, "On Cleanliness," *The Moral Reformer and Teacher on the Human Constitution* 1 (1835): 13, quoted in Richard L. and Claudia L. Bushman, "History of Cleanliness," 1224.
  
23. Richard L. Bushman and Claudia L. Bushman, "History of Cleanliness," 1230-31.
  
24. For a discussion of "the modernization of dirt and the new public health," see Paul Starr, *The Social Transformation of American Medicine* (New York, 1982), 189-97.
  
25. The collision of traditional empiricism with new bacteriological science is well described in Naomi Rogers' *Dirt and Disease: Polio before FDR* (New Brunswick, 1992). The extent to which public health became more personalized toward the turn of the century than it had been earlier, and what a new focus on individuals and clinical practice meant, are the subjects of a growing body of scholarship. The changing orientation of public health historiography may be followed in Barbara G. Rosenkrantz, *Public Health and the State: Changing Views in Massachusetts, 1842-1936* (Cambridge, Mass., 1972); John Duffy, *A History of Public Health in New York City*, 2 vols. (New York, 1968, 1974); idem, *The Sanitarians: A History of American Public Health* (Urbana, 1982); and Judith Walzer Leavitt, *The Healthiest City: Milwaukee and the Politics of Health Reform* (Princeton, 1982). The more recent interest in how germ theory was popularized within the social context of public health is represented in Nancy Tomes's "The Private Side of Public Health: Sanitary Science, Domestic Hygiene, and the Germ Theory, 1870-1900," *Bulletin of the History of Medicine* 64 (1990): 509-39; Barbara Bates, *Bargaining for Life: A Social History of Tuberculosis* (Philadelphia, 1992); and Judith Walzer Leavitt, "'Typhoid Mary' Strikes Back: Bacteriological Theory and Practice in Early Twentieth-Century Public Health," *Isis* 83 (1992): 608-29.

26. Charles V Chapin, *How to Avoid Infection* (Cambridge, Mass., 1917), 62; Leavitt, "'Typhoid Mary' Strikes Back," 621.
27. Jno. Young Brown, "A Practical Suggestion in Regard to the Technique of the Operation of Circumcision," *Medical Mirror* (St. Louis) 1 (1890): 23.
28. P[eter] C[harles] Remondino, *History of Circumcision from the Earliest Times to the Present: Moral and Physical Reasons for Its Performance* (Philadelphia and London, 1891), 256, 11.
29. Remondino, *History of Circumcision*, 206-10, 255-56, 290-91, 300.
30. John Ashurst, *The Principles and Practice of Surgery* (Philadelphia, 1878); Herbert Snow, *Clinical Notes on Cancer: Its Etiology and Treatment* (London, 1883), 24; William Rose and Albert Carless, *A Manual of Surgery for Students and Practitioners* (New York, 1898), 1064.
31. For an account of General Grant's ordeal and "cancerphobia" in late Victorian America see James T. Patterson's *The Dread Disease: Cancer and Modern American Culture* (Cambridge, Mass., 1987), 1-35; Shradys remark is from the *New York Tribune* 31 July 1885, quoted on p. 27. Remondino, *History of Circumcision*, 227.
32. Oswei Temkin, "Therapeutic Trends and the Treatment of Syphilis before 1900," *Bulletin of the History of Medicine* 39 (1955): 309-16; Allan M. Brandt, *No Magic Bullet: A Social History of Venereal Disease in the United States since 1880* (expanded ed., New York, 1987), 7-37.
33. Ashurst, *Principles and Practice of Surgery*, 945; William Rose and Albert Carless, *A Manual of Surgery for Students and Practitioners* (New York, 1889), 1064; S. Dunlop, "Case of Sebaceous Cysts of the Prepuce Resembling Epithelioma," *Medical Press* (London) 34 (1882): 374; D. B. Simmons, "A Case of Epileptiform Convulsion Cured by a Simple Detachment of a Glandulo-preputial Adhesion," *American Journal of Medical Science* (Philadelphia) 79 (1880): 444; E. von Bergmann, R. von Bruns, and J. von Mikulicz, *A System of Practical Surgery*, vol 5, *Surgery of the Pelvis and Genito-Urinary Organs*, trans. William T. Bull and Edward Milton Foote (New York and Philadelphia, 1904), 627-30; A. C. Williams, "Circumcision," *Medical Standard* (Chicago) 6 (1889): 138-39; Simes, "Circumcision," 380. Remondino used the same logic: "The absence of the prepuce and the non-absorbing character of the skin of the glans penis, made so by constant exposure, with the necessary and unavoidably less tendency of these conditions to favor syphilitic inoculation" (*History of Circumcision*, 192).

34. John S. Billings, "Vital Statistics of the Jews," *North American Review* 152 (1891): 70-84; idem *Vital Statistics of the Jews of the United States* (Washington, D.C., 1890); Howard M. Sachar, *A History of the Jews in America* (New York, 1992), 149.
35. A New York doctor, Abraham L. Wolbarst, conducted an extensive survey of his colleagues concerning differences in rates of several diseases between Jews and Gentiles. With a single exception, they reported sharply lower rates of venereal diseases and genital cancers among Jews ("Universal Circumcision as a Sanitary Measure," *Journal of the American Medical Association* 62 [1914]: 92-97).
36. This remark, which refers to the whole range of Jewish dietary and sanitary practices, is quoted in Maurice Fishberg, "Health and Sanitation of the Immigrant Jewish Population of New York," *Menorah* 33 (1902): 73-82 (p. 75); Remondino, *History of Circumcision*, 186. Although an explanation of the difference remains elusive, researchers have recently confirmed that Jewish immigrants enjoyed substantially lower child mortality rates than non-Jews. See Gretchen A. Condran and Ellen A. Kramarow, "Child Mortality among Jewish Immigrants to the United States," *Journal of Interdisciplinary History* 22 (1991): 223-254.
37. Ricketts, "One Hundred and Fifty Circumcisions," 364-65. Ricketts was not exaggerating, although the practice he described was comparatively rare. Wolbarst told his readers that he had "the assurance of Rabbi Philip Jaches of New York, who has successfully performed more than seven thousand circumcisions, that the ancient practice of sucking the wound is considered obsolete, and that cotton and gauze, wet with antiseptic solutions, are being commonly used for hemostasis" ("Universal Circumcision as a Sanitary Measure," 93).
38. A. Brothers, "Gangrene of the Penis after Ritual Circumcision," *Medical Record* (New York) 51 (1897): 157; A. Schirman, "A Case of Tetanus in an Infant after Circumcision, with Recovery," *New York Medical Journal* 62 (1895): 148; M. W. Ware, "A Case of Inoculation Tuberculosis after Circumcision," *New York Medical Journal* 67 (1898): 287; C. H. Mastin, "Circumcision a Cause of Reflex Irritation of the Genito-Urinary Organs," *Gaillard's Medical Journal* (New York) 39 (1885): 355-62; Fred C. Valentine, "Surgical Circumcision; its Technique; Prevention of Infection; its Legal Control," *Medical Record* (New York) 57 (1900): 1102-03; Harry Levien, "Circumcision - Dangers of Unclean Surgery," *Medical Record* (New York) 46 (1894): 621.
39. R. Hochlerner, "Circumcision - Do We Need Legislation for It?" *Medical Record* (New York) 46 (1894): 702. Questions of technique and hygiene were raised in Germany and France. But physicians in those countries, intrigued by a new wave of comparative ethnography, continued to consider circumcision primarily as a religious ritual, not as a practice to be incorporated into the mainstream of medicine. See, J. Jaffé, *Die rituelle Circumcision im Lichte der antiseptischen*

- Chirurgie mit Berücksichtigung der religiösen Vorschriften* (Leipzig, 1886); *Die Beschneidung in ihrer geschichtlichen, ethnographischen, religiösen und medicinischen Bedeutung...*, ed. A. Glassberg (Berlin, 1896); and J. B. Joly, *Histoire de la circoncision. Etude critique du manuel opératoire des Musulmans et des Israélites* (Paris, 1895).
40. N. M. Shaffer, "On Indiscriminate Circumcision," *Annals of the Anatomical and Surgical Society of Brooklyn* 3 (1881): 243-47; H. Snow, *The Barbarity of Circumcision...* (London, 1890); "Circumcision," *Medical Record* (New York) 46 (1894): 593. Not content to let his criticism stand, the writer went on to add, "the rite which in these modern times might be substituted for the early religious ceremony of circumcision would, according to some, be resection of the spermatic cord of the vicious and defective classes, so they should cease to propagate their kind. Spermatorectomy will probably triumph over and replace circumcision, if anything does" (594).
  41. Starr, *Social Transformation of American Medicine*, 164-70; Charles E. Rosenberg, *The Care of Strangers: The Rise of America's Hospital System* (New York, 1987), 149.
  42. Martin S. Pernick, *A Calculus of Suffering: Pain, Professionalism, and Anesthesia in Nineteenth-Century America* (New York, 1985), 7, 237.
  43. C. Knox-Shaw, "An Easy, Rapid, and Effectual Method of Performing Circumcision," *Homeopathic Journal of Obstetrics* (Philadelphia) 13 (1891): 209; G. W. Overall, "Painless Circumcision," *Medical Record* (New York) 39 (1891): 78. Also see J. Madden, "Cocaine as an Anesthetic in Circumcision," *Therapeutic Gazette* (Detroit) 2 (1886): 229; and F. N. Otis, "Circumcision under Cocaine," *New York Medical Journal*, 43 (1886): 513.
  44. Samuel E. Newman, "A Circumcision Operation for the Young," *Journal of the American Medical Association* (hereafter *JAMA*) 53 (1909): 1737; Brown, "A Practical Suggestion," 22; Simes, "Circumcision," 381-82.
  45. S. Baruch, "New Circumcision Scissors," *Gaillard's Medical Journal* (New York) 33 (1882): 25-26; John W. Ross, "An Easy and Ready Method of Circumcision," *Medical Record* (New York) 48 (1895): 323; A. U. Williams, "Circumcision," *Medical Standard* (Chicago) 6 (1889): 138. See also B. Lewis, "The Neatest Circumcision," *Medical Record* (St. Louis) 23 (1895): 81-83.
  46. B. Merrill Ricketts, "Circumcision: The Last Fifty of Two Hundred Circumcisions," *New York Medical Journal* 59 (1894): 431-32.



47. Hochlerner, "Circumcision," 702; Newman, "A Circumcision Operation for the Young," 1738.
48. Typical examples of the argument for operating as early as possible are W. B. Harlow's "Circumcision in infancy," *Medical Record* (New York) 64 (1903): 495; and W. R. Wilson, "A Simple Method of Circumcision in the New-born," *Archives of Pediatrics* 25 (1908): 841-43.
49. Samuel H. Preston and Michael R. Haines, *Fatal Years: Child Mortality in Late Nineteenth-Century America* (Princeton, 1991); Sydney Halpern, *Pediatrics: The Social Dynamics of Professionalism, 1880-1980* (Berkeley, 1988), ch. 1; Harvey Levenstein, "'Best for Babies' or 'Preventable Infanticide'? The Controversy over Artificial Feeding of Infants in America, 1880-1920," *Journal of American History* 70 (1983): 76; Richard A. Meckel, *Save the Babies: American Public Health Reform and the Prevention of Infant Mortality, 1850-1929* (Baltimore and London, 1990), 40-61.
50. J. A. Hofheimer, "Phimosis; A Plea for Its Relief by Early Operation," *Journal of the American Medical Association* 21 (1893): 890-91; H. L. Rosenberry, "Incontinence of Urine and Feces, Cured by Circumcision," *Medical Record* (New York): 173. In a cautionary response to Rosenberry's paper, John S. McCullough reported a case in which he recommended circumcision for a month-old baby with "severe indigestion." The parents refused and the boy died (*Medical Record* [New York] 46 [1894]: 342).
51. Donald Fleming, *Williams H. Welch and the Rise of Modern Medicine* (Boston, 1954), 11.
52. For a discussion of the changing paradigm of disease during this period, see K. Codell Carter's "The Development of Pasteur's Concept of Disease Causation and the Emergence of Specific Causes in Nineteenth-Century Medicine," *Bulletin of the History of Medicine* 65 (1991): 528-48. Charles E. Rosenberg has lucidly outlined the implications of the new scientific paradigm for Victorian practitioners in his essay, "The Therapeutic Revolution: Medicine, Meaning, and Social Change in Nineteenth-Century America," in Morris J. Vogel and Charles E. Rosenberg, eds., *The Therapeutic Revolution: Essays in the Social History of American Medicine* (Philadelphia, 1979), 3-26. The inconsistencies and tensions that arose between the new bacteriological science and clinical practice are the subject of John Harley Warner's "Ideals of Science and Their Discontents in Late Nineteenth-Century American Medicine," *Isis* 82 (1991): 454-78.
53. Eltiott T. Brady, "Masturbation, with Illustrative Cases, and Remarks," *Virginia Medical Monthly* 18 (1891-92): 259; Francis P. Kinnicutt, "A Clinical Contribution on Insanity in Children, Induced

- by Masturbation," *Transactions of the American Neurological Association* 1 (1875): 195-200. Although alienists and asylum doctors had linked masturbation to insanity since the early part of the nineteenth century, its great dangers were not a preoccupation of mainstream physicians until the 1860s. See E. H. Hare, "Masturbatory Insanity: The History of an Idea," *Journal of Mental Science* 108 (1962): 1-20; and R. P. Neuman, "Masturbation, Madness, and the Modern Concepts of Childhood and Adolescence," *Journal of Social History* 8 (1975): 1-27.
54. Remondino, *History of Circumcision*, 269; Francis P. Kinnicutt, "A Clinical Contribution on Insanity in Children, Induced by Masturbation," *Transactions of the American Neurological Association* 1 (1875): 195-200. The notion that masturbation in early childhood sets children on the path to destruction is given its fullest expression in Joseph Howe's *Excessive Venery, Masturbation and Continence* (New York, 1889). American society's enduring nervousness about childhood masturbation is documented in Irwin M. Marcus, ed., *Masturbation; >From Infancy to Senescence* (New York, 1975).
55. Hurd, "Phimosis with Lithuria," 397; George M. Beard, "Sexual Neurasthenia," *Medical Bulletin* (Philadelphia) 4 (1882): 621.
56. Robert N. Tooker, *All About Baby and Preparations for Its Advent...* (Chicago and New York, [1896]), 304; L. Emmett Holt, *The Diseases of Infancy and Childhood* (New York, 1902), 679-80; Remondino, *History of Circumcision*, 224.
57. For an overview of the debate on masculinity and male sexuality in the late-nineteenth century see Mark C. Carnes and Clyde Griffen, eds., *Meanings for Manhood: Constructions of Masculinity in Victorian America* (Chicago, 1990); and Kevin J. Mumford, "'Lost Manhood' Found: Male Sexual Impotence and Victorian Culture in the United States," *Journal of the History of Sexuality* 3 (1992): 33-57.
58. A. J. Howe, *The Art and Science of Surgery* (Cincinnati, 1879), 691; Samuel Wesel Gross, *A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs* (Philadelphia, 1890); Remondino, *History of Circumcision*, 216, 211; and idem, "Some Observations on the History, Psychology, and Therapeutics of Impotence," *Pacific Medical Journal* 42 (1899): 522.
59. Wolbarst, "Universal Circumcision as a Sanitary Measure," 92, 95. Examples of the quest for a reliable operation include J. A. Gardner and N. W. Wilson, "The Best Method of Infant Circumcision," *Buffalo Medical Journal* 41 (1901-1902): 891; H. J. Millstone, "A Cosmetically Perfect, Bloodless Circumcision," *Medical Record* (New York) 92 (1917): 680-82; C. T. Stone,

- "The Guillotine: A Simple One-Man Instrument for Doing Circumcisions," *Medical Record* (New York) 98 (1920): 479.
60. Remondino, *History of Circumcision*, iii; Bushman, *The Refinement of America*, 403. This physician-led movement, with its class-based view of the male body, is consistent with Charles Rosenberg's essay, "Sexuality, Class, and Role in Nineteenth-Century America," in *No Other Gods: On Science and American Social Thought*, ed. Charles Rosenberg (Baltimore, 1987).
61. Mary Douglas, *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (New York and Washington, 1966) offers an interesting perspective on the sociocultural meanings of dirt and pollution in primitive societies. A suggestive treatment of the relationship between the role that images of dirt play in "fantasies of race" is Joel Kovel, *White Racism: A Psychohistory* (New York, 1970), esp. 51-92.
62. Neonatal circumcision emerged at the same time physicians were broadly revising the practice of obstetrics, developing operations like episiotomy (cutting the perineal tissues) to facilitate childbirth, and greatly expanding cesarean section deliveries. See Judith Walzer Leavitt's *Brought to Bed: Childbearing in America, 1750-1950* (New York and Oxford, 1986), esp. 142-170. The class dimension of the struggle between physicians and midwives is documented in Nancy Schrom Dye's "Modern Obstetrics and Working Class Women: The New Midwifery Dispensary, 1890-1920," *Journal of Social History* 20 (1986-87): 549-564.
63. Nancy Schrom Dye and Daniel Blake Smith, "Mother Love and Infant Death, 1750-1920," *Journal of American History* 73 (1986): 329-53, convincingly argue that through the early decades of the twentieth century, American mothers were responsive to medical advice that promised to help them evade the ravages of infant mortality. On the excessive modesty fostered by advice books see Ronald Walters's *Primers for Prudery: Sexual Advice to Victorian America* (Englewood Cliffs, 1974). Frank G. Lydston, *Sex Hygiene for the Male* (Chicago, 1912) quoted in Wolbarst, "Universal Circumcision as a Sanitary Measure," 97.
64. M. Calnan, J. W. Douglas, and H. Goldstein, "Tonsillectomy and Circumcision: Comparisons of Two Cohorts," *International Journal of Epidemiology* 7 (1978): 78-85. Confirms the hypothesis that both operations are correlated with social class, with better-off children receiving more surgery.
65. David M. Eddy, "Practice Policies: Where Do They Come From?" *JAMA* 263 (1990): 1265-1275. Insightful discussions of the unscientific basis for clinical practice and the role of uncertainty in physicians' treatment decisions are Eddy's "Clinical Policies and the Quality of Clinical Practice," *NEJM*, 307 (1982): 343-347; idem, "Variations in Physician Practice: The Role of Uncertainty,"

- Health Affairs* 3 (1984): 74-89; and idem, "Clinical Decision Making: From Theory to Practice," *JAMA* 263 (1990): 441-34, 877-80, 1839-41. The divergence of basic biomedical science from clinical practice, and the poor quality of clinical science which has resulted, is the subject of Alvan R. Feinstein's, "The Intellectual Crisis in Clinical Science: Medaled Models and Muddled Mettle," *Perspectives in Biology and Medicine* 30 (1987): 215-30.
66. For an overview of research on small area variations see John E. Wennberg and Alan Gittlesohn, "Small Area Variations in Health Care Delivery," *Science* 182 (1973): 1102-08; John E. Wennberg, "Small Area Analysis and the Medical Care Outcome Problem," in AHCPR (Agency for Health Care Policy and Research) Conference Proceedings, *Research Methodology: Strengthening Causal Interpretations of Nonexperimental Data* (Washington: Department of Health and Human Services, 1990), 177-206; idem, "Professional Uncertainty and the Problem of Supplier-induced Demand," *Social Sciences and Medicine* 16 (1982): 811-24; and idem, "Which Rate is Right?" *NEJM* 314 (1986): 1310-11. For an example of an often-unwarranted surgical practice that in many respects resembles routine circumcision see Norman Gleicher's "Cesarean Section Rates in the United States: The Short-term Failure of the National Consensus Development Conference in 1980," *JAMA*, 252 (1984): 3273-76.
67. Timothy Feris, "The Case against Science," *New York Review of Books*, 13 May 1993, 17.
68. David M. Eddy, "Practice Policies: Where Do They Come From?" *JAMA* 263 (1990): 1265-75. On the matter of circumcision, as with so many other medical decisions, patients conflate social, cultural, and medical issues. For instance, on the basis of 190 questionnaires completed by women who had their sons circumcised, one study determined that the health benefits mothers associated with the procedure had little or no medical validity. At the same time, few mothers understood the risks of the procedure. See J. E. Lovell and J. Cox, "Maternal Attitudes toward Circumcision," *Journal of Family Practice* 9 (1979): 811-13. More recently, research conducted among parents presumably inclined against surgical intervention - a group of men and women enrolled in natural childbirth classes - found that nearly two-thirds of them had decided to circumcise their boys for explicitly social reasons. Foremost among these was an expressed fear that being uncircumcised would stigmatize their sons because they would be different from other boys, as well as from their own fathers. See Jay Brodbar-Nemzer, Peter Conrad, and Shelly Tenenbaum, "American Circumcision Practices and Social Reality," *Sociology and Social Research* 71 (1987): 275-79.
69. Nervous American medical editors and illustrators have long fretted over how to portray sexual organs without suggesting prurience. Occasionally prudishness (and an obsessive desire for cleanliness?) leads to absurdity, as when the imposing Mayo Clinic medical guide elides the genitals and body hair of the naked man pictured on the first page of its "Color Atlas of Human Anatomy" (*Mayo Clinic Family Health Book*, ed. David E. Larson [New York, 1990], A-1).
70. *Newsweek*, 21 July 1947, 49; E. A. Hand, "Circumcision and Venereal Disease," *Archives of Dermatology and Syphilis* 60 (1949): 341-46.

71. Hugh Jolly, *Practitioner*, 192 (1964): 257; A. M. Rickwood, J. Walder, "[Is Phimosis Overdiagnosed in Boys and Are Too Many Circumcisions Performed in Consequence?](#)" *Annals of the Royal College of Surgeons of England* 71 (1989): 275.
72. *JAMA*, 185 (1963): 180; W. K. C. Morgan, "[The Rape of the Phallus](#)," *JAMA* 193 (1965): 124. Morgan's paper outraged many physicians, more for its attack on the legitimacy of circumcision than for its denigration of mothers, leading some to suggest that he deserved to be hauled before the House Committee on Un-American Activities. See Morgan's "Reply to J. Greenblatt," *American Journal of Disease of Children* 111 (April 1966): 448.
73. R. P. Bolande, "Ritualistic Surgery - Circumcision and Tonsillectomy," *New England Journal of Medicine* 280 (1969): 591-96; E. N. Preston, "[Whither the Foreskin? A Consideration of Routine Neonatal Circumcision](#)," *JAMA* 213 (1970): 1853-58. H. C. Thompson, L. R. King, E. Knox, and S. B. Korones, "[Report of the ad hoc Task Force on Circumcision](#)," *Pediatrics* 56 (1975): 610-11. This study contained both a frank appraisal of the risks of the procedure and speculation that circumcision improved hygiene, and could help prevent and control sexually transmitted diseases and some cancers. Benjamin Spock, Letter to the Editor, *Moneysworth*, 29 March 1976, 12.
74. D. A. Grimes, "[Routine Circumcision of the Newborn Infant: A Reappraisal](#)," *American Journal of Obstetrics and Gynecology* 130 (1978): 125-29.
75. T. E. Wiswell, F. R. Smith, J. W. Bass, "Decreased Incidence of Urinary Tract Infections in Circumcised Male Infants," *Pediatrics* 75 (1985): 901-03; L. W. Herzog, "Urinary Tract Infections and Circumcision: A Case-Control Study," *American Journal of Childhood Diseases*, 143 (1989): 348-50; D. Spach et al., "Lack of Circumcision Increases the Risk of Urinary Tract Infection in Young Men," *JAMA* 267 (1992): 679-81; T. E. Wiswell and W. E. Hatchey, "Urinary Tract Infections and the Uncircumcised State: An Update," *Clinical Pediatrics* 32 (1993): 130-34. A sharp critique of this approach concluded that even if one took its results at face value, owing to the risks of the procedure "for the set of values assigned to the possible outcomes, the choice of no circumcision yielded the highest expected benefit." See John B. Chessare, "[Circumcision: Is the Risk of Urinary Tract Infection Really the Pivotal Issue?](#)" *Clinical Pediatrics* (1992): 100-04; and Martin S. Altschul, "[The Circumcision Controversy](#)," *American Family Physician* 41 (1990): 817-19.
76. For the most part, the literature linking circumcision to reduced incidence of cervical cancer has centered on the transmission of certain types of the papillomavirus (along with several other sexually transmitted diseases). This virus is suspected to play a role in the pathogenesis of cervical carcinoma. See I. I. Kessler, "Etiological Concepts in Cervical Carcinogenesis," *Gynecological Oncology* 12 (1981), Suppl. 2: 7-24; W. C. Reeves, W. E. Rawls, and L. A. Brinton,

"Epidemiology of Genital Papillomaviruses and Cervical Cancer," *Review of Infectious Diseases* 11 (1989): 426-39. As Ronald L. Poland points out, though, "studies have correlated exposure to uncircumcised sexual partners with the incidence of cervical cancer, but the uncircumcised state is also associated with the presence of the human papillomavirus and other possibly oncogenic viruses" ("[The Question of Routine Neonatal Circumcision](#)," *NEJM* 332 [1990]: 1314).

77. J. N. Simonsen, D. W. Cameron, M. N. Gakinya, et al., "Human Immunodeficiency Virus Infection among Men with Sexually Transmitted Diseases: Experience from a Center in Africa," *NEJM* 319 (1988): 274-78; D. W. Cameron, J. N. Simonsen, L. J. D'Costa, et al., "Female to Male Transmission of Human Immunodeficiency Virus Type I: Risk Factors for Seroconversion in Men," *Lancet* 2 (1989): 403-07; Jean L. Marx, "Circumcision May Protect against the AIDS Virus," *Science*, 245 (1989): 470-71; R. L. Poland, "[The Question of Routine Neonatal Circumcision](#)," *NEJM*, 322 (1990): 1312-15.