

## Historical Article

# FRÈRE JACQUES BEAULIEU: FROM ROGUE LITHOTOMIST TO NURSERY RHYME CHARACTER

JACQUES P. GANEM AND CULLEY C. CARSON

*From the Division of Urology, University of North Carolina, Chapel Hill, North Carolina*

### ABSTRACT

**Purpose:** We discuss the history of Frère Jacques Beaulieu, a celebrated 17th century French lithotomist, and question the relationship of his name to a well-known nursery rhyme character.

**Materials and Methods:** We reviewed historical reports about Beaulieu and his career as a lithotomist. Nursery rhyme interpretations were also reviewed.

**Results:** Beaulieu was born in 1651 to a peasant family and learned the practice of lithotomy by apprenticeship. He was never formally ordained yet donned a monk habit and called himself Frère Jacques. He was the first person to use the lateral approach to perineal lithotomy and openly shared his surgical technique. His lithotomy procedure was observed by the high court in Paris on 3 separate occasions between 1697 and 1704. Unfortunately his patients had significant morbidity and mortality, and he was denied operating privileges. He performed approximately 5,000 lithotomies in 30 years and died in 1719 at age 68 years. The nursery rhyme "Frère Jacques" probably refers to a playful group of Jacobinic monks who often overslept. We found no direct association between Frère Jacques Beaulieu and the nursery rhyme character.

**Conclusions:** Beaulieu was an early urologist who was the first to describe the lateral approach to perineal lithotomy. Unlike other lithotomists of the 17th century, he openly shared his surgical techniques and stimulated others to refine the procedure. Regardless of the exact derivation of the nursery rhyme, the name Frère Jacques will always be remembered in song.

**KEY WORDS:** history, bladder calculi, bladder

The practice of lithotomy dates back to antiquity and was described by virtually every society, including the ancient Greeks, Egyptians, Chinese, Persians and Hindus.<sup>1</sup> The term lithotomy was coined in 276 B.C. by the Greek surgeon Ammonius of Alexandria but the Roman Celsus (25 B.C. to 25 A.D.) provided the first detailed description of median lithotomy in children younger than age 14 years using minor apparatus, which did not include urethral sounds or specialized grasping forceps.<sup>2</sup> The operation described by Celsus was performed for more than 1,400 years.<sup>3</sup> The Hippocratic Oath (5th century B.C.) clearly separated physicians from surgeons with the statement "I will not cut, indeed not even sufferers from stone, and I will keep apart from men engaging in this practice."<sup>4</sup> This concept laid the groundwork for the evolution of lithotomists and barber surgeons. Furthermore, surgical procedures were not encouraged during the Medieval Ages and were considered pagan ritual. However, during the Renaissance (1453 to 1600) there was a revival of learning, culture and medicine, although physicians strictly adhered to the Hippocratic Oath and did not "cut for the stone," allowing poorly trained itinerant lithotomists to flourish.<sup>3</sup>

The perineal approach to lithotomy was introduced in 1520 in Italy by Romano but his student Santo de Barletta popularized the technique using major apparatus, which included a urethral sound used to depress the bladder neck towards the perineum, ensuring bladder neck incision.<sup>5</sup> Lithotomy

instruments included urethral catheters, grasping forceps and a variety of scalpels. Lithotomy was the most discussed surgical procedure because bladder calculi were exceedingly common due to purine rich diets, and it was among the few operations possible at that time.<sup>2,5,6</sup> There was a well established professional hierarchy among surgeons of the 17th century. So-called true surgeons performed major operations, including bowel perforation repair, tumor excision and plastic procedures of the lips and nose. However, barber surgeons were primarily wound doctors who performed bloodletting, cupping, tooth extraction and surgery for bladder stones. Reputable surgeons avoided all association with untrained barber surgeons and itinerant lithotomists. These early urologists often had no knowledge of anatomy and wound healing, and roamed the countryside performing lithotomy at the homes of patients with bladder stones. However, even among lithotomists there was fierce competition, jealousy and an overall lack of camaraderie.<sup>2</sup>

During this time Jacques de Beaulieu was born to a poor peasant family in Burgundy, France in 1651. He dreamed of leaving his monotonous life and pursuing a career in medicine but joined the cavalry as a private at age 16 years.<sup>7</sup> At age 21 years he was apprenticed by a wandering Italian lithotomist and hernia surgeon named Paulomi, who taught Beaulieu the trade of lithotomy for approximately 6 years.<sup>8</sup> Beaulieu then went out on his own and practiced lithotomy in Provence for 10 years.<sup>7</sup> He traveled with 4 assistants who prepared a large group of patients for lithotomy with cupping and bloodletting several days preoperatively. Beaulieu would then operate on all the patients

Accepted for publication November 13, 1998.  
Presented at annual meeting of American Urological Association, San Diego, California, May 30-June 4, 1998.

in 1 day and immediately leave town. He often used a portable lithotomy table (fig. 1).<sup>5</sup>

In about 1690 Beaulieu experienced a personal mystical event that changed his life. Without formal ordination he donned a monk habit and called himself Frère Jacques, and lived a simple life dedicated to his profession and improving the human condition (fig. 2). Frère Jacques asked only nominal fees for services, devoted his life to charity and often distributed his earnings to the poor. He roamed the French countryside as an itinerant lithotomist and had an excellent reputation.<sup>7,9</sup>

Frère Jacques was not satisfied with the median approach to perineal lithotomy, which was standard in 17th century France, because of the high incidence of complications and inaccessibility of large bladder calculi. He discovered a new approach to the bladder base and was among the first to perform lateral lithotomy, which provided wider access to the bladder neck and facilitated removal of bladder stones. Frère Jacques was proud of his surgical abilities and innovations, and his lithotomies were often attended by hundreds of people. Unlike other lithotomists of the 17th century, Frère Jacques always shared his surgical techniques with other physicians and surgeons (fig. 3).

His technique was to place the patient, who was restrained by several strong men since there was no anesthesia in the lithotomy position. He cleaned his instruments and hands in the oil of roses.<sup>2</sup> A solid, grooveless urethral sound was used to depress

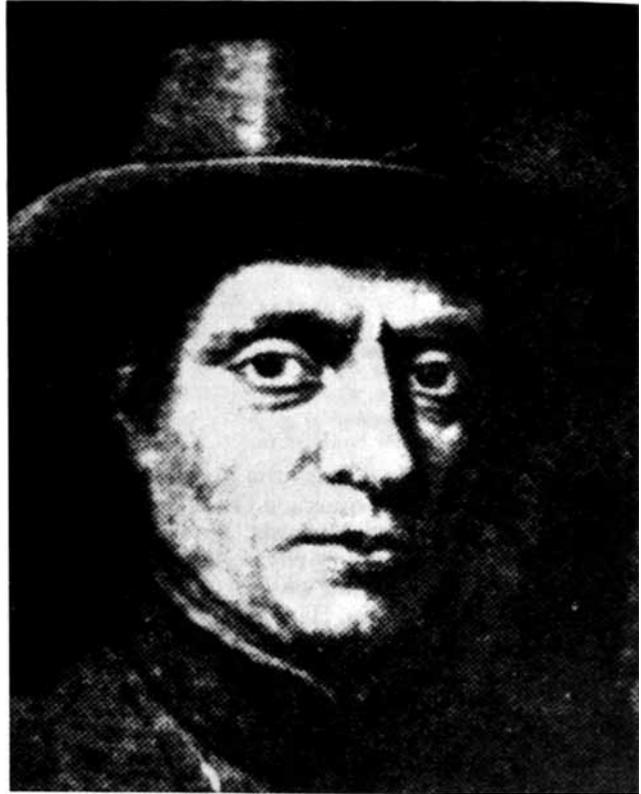


FIG. 2. Frère Jacques Beaulieu (1651 to 1719)



FIG. 1. Portable lithotomy table often used by itinerant lithotomists.<sup>12</sup>

the inferior bladder neck, and a finger in the anus pressed the stone into the bladder neck. An incision was made in the left side of the perineum, lateral to the anus and medial to the ischial tuberosity, and then a diagonal incision was made to the level of the urethral sound until the bladder was entered. Therefore, the incision was made between the ischiocavernosus and bulbocavernosus muscles through the ischiorectal fossa. When the bladder was entered Frère Jacques extended the incision in both directions and removed the stone with his hands or grasping apparatus. He then often declared, "I have cut the stone out of him. God will now heal him!" Frère Jacques did not use dressings and left postoperative treatment to the family of the patient. He rarely if ever saw his patient after the procedure and was often criticized for this neglect.<sup>10</sup>

Frère Jacques was invited to Paris in April 1697 on the recommendation of a high official in southern France. Jean Méry (1645 to 1722), the head surgeon of the Hôtel Dieu, observed Frère Jacques perform lateral lithotomy and successfully remove a bladder stone from a cadaver. He was then allowed to operate on living patients. Frère Jacques often performed lithotomy in less than 1 minute and 10 lithotomies in 1 hour at the Hôtel Dieu. However, he had a 53.5% mortality rate for 71 patients operated on at the Hôtel Dieu and La Charité Hospital in 1 month, compared to an average lithotomy mortality rate of 14% at that time.<sup>2</sup>

Beaulieu accused fellow surgeons and monks of poisoning his patients but Méry performed all of the autopsies and found significant complications, such as urinary fistulas, bowel and bladder injuries, uterine and vaginal damage, urinary incontinence, excessive bleeding, infection and scrotal gangrene.<sup>7</sup> It is estimated that more than half of the mortalities were attributed to transection of the internal pudendal artery. Given these dismal outcomes Frère Jacques was denied operating privileges at Parisian hospitals, and he left Paris for Aix-la-Chapelle, where he was more successful.



FIG. 3. Frère Jacques performing lithotomy for large group of observers. Reprinted with permission.<sup>7</sup>

In 1702 he was invited back to Paris and his surgical results were somewhat better because he used a grooved urethral sound during lithotomy. While in Paris he studied under the famous anatomist J.-G. Duverney, who helped him with the anatomical relationships pertinent to lithotomy. However, Beaulieu was embarrassed when he was not asked to operate on Fagon, the physician and close friend of Louis XIV. de Lorges, the primary surgeon of Louis XIV, successfully performed lithotomy on Fagon. Humiliated and demoralized, Frère Jacques left Paris for a second time and traveled to Holland, where he taught Rau (1668 to 1719), the most famous lithotomist in Holland, the lateral approach to perineal lithotomy. Frère Jacques was successful in Holland, and was presented a golden set of urethral sounds and a gold medal inscribed "Pro Servatis Civibus."<sup>3</sup>

Later that year Frère Jacques was called to Paris for a third time to operate on the unhealthy 78-year-old de Lorges, who had bladder calculi. He successfully operated on 22 poor patients first to prove that his technique was sound. de Lorges Maréchal then agreed to the procedure but died the next day. Again, as his reputation suffered considerably,

Frère Jacques left Paris for a third and final time in 1704.<sup>8</sup> In 1715 he was presented to the Pope, sojourned in Italy, Belgium and Germany, and finally returned to France. Frère Jacques performed approximately 5,000 lithotomies in 30 years and retired at age 60 years. He died in 1719 at age 68 years. Despite his high morbidity and mortality rates, Frère Jacques was one of the most celebrated lithotomists of his time.

What of the well-known French nursery rhyme that begins "Frère Jacques, Frère Jacques, Dormez-vous, dormez-vous. . ."? This French round was written for the harpsichord during the 17th century by an unknown author.<sup>11</sup> Is it a coincidence that Frère Jacques Beaulieu lived during this century or are these 2 separate individuals? One interpretation of this nursery rhyme is based on the lifestyle of the Jacobinic monks, who lived adjacent to the Saint Jacques Cathedral in Paris. The name Jacques is derived from the Latin *Jacobus*, which means comfortable and soft. These monks pampered themselves and their guests with rich foods and soups, and played card games late into the evening. They often overslept and, thus, 1 interpretation of the song is a polite mockery of their lazy lifestyle.<sup>11</sup> Or, perhaps the song is a message to ring church bells and awaken slumbering people with bladder calculi to present for evaluation and lithotomy by Frère Jacques. Regardless of the exact derivation of the nursery rhyme, the name Frère Jacques Beaulieu will always be remembered in song. He was a pious, charitable and generous man who openly shared his surgical techniques and, therefore, stimulated other lithotomists, such as William Cheselden of England, to refine the lateral approach to perineal lithotomy, which remained the preferred approach for more than 200 years.

#### REFERENCES

1. Ellis, H.: The Gordon Bell memorial lecture: cutting for the stone. *Aust. New Zeal. J. Surg.*, **50**: 4, 1980.
2. Wangenstein, O. H. and Wangenstein, S. D.: Lithotomy and lithotomists. In: *The Rise of Surgery from Empiric Craft to Scientific Discipline*. Minneapolis: University of Minnesota Press, pp. 71-80, 1978.
3. Ballenger, E. G., Frontz, W. A., Hamer, H. G. and Lewis, B.: Lithiasis. In: *History of Urology*. Baltimore: Williams & Wilkins Co., pp. 3-5, 1933.
4. Thomalla, J. V.: Lithotomy history and the Hippocratic Oath. *Indiana Med.*, **82**: 434, 1989.
5. Herman, J. R.: Lithotomy or "cutting for stone." In: *Urology: A View Through the Retrospectroscope*. Maryland: Harper & Row, pp. 22-34, 1973.
6. Modlin, M.: A history of urinary stone. *S. Afr. Med. J.*, **18**: 652, 1980.
7. Kuss, R. and Gregoir, W.: La taille laterale. In: *Histoire Illustree de l'Urologie, de l'Antiquite a Nos Jours*. Paris: Les Editions Roger Dacosta, pp. 157-164, 1988.
8. Kiefer, J. H.: Frere Jacques Beaulieu. *Invest. Urol.*, **7**: 543, 1970.
9. Rutkow, I. M.: 17th century french surgical treatises. In: *Surgery: An Illustrated History*. St. Louis: Mosby-Year Book, Inc., p. 224, 1993.
10. Thorwald, J.: The long night. In: *The Century of the Surgeon*. New York: Pantheon Books, pp. 49-50, 1956.
11. David, M. and Delrieu, A. M.: Refrains D'Enfance. *Histoire de 60 chansons populaires*. Paris: Herscher, pp. 75, 1989.