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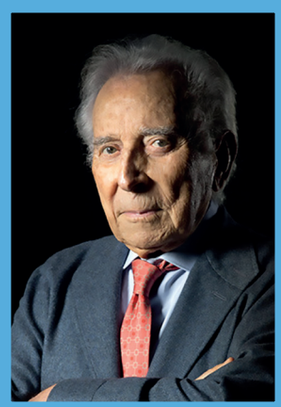
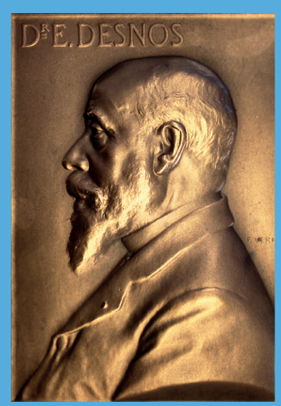
Outstanding Spanish Contributions to Urology

An overview of academic and surgical achievements





eau History Office

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EAU25 | MADRID, SPAIN
21-24 March 2025

Primitive urological knowledge: From book to knife

Muslim, medieval and Renaissance medicine in Spain had enormous influence in establishing the foundations of urogenital knowledge. The impact of the recovery of classical knowledge, lost in Europe, through the Arabic and Hebrew translators who established themselves in the Hispanic territories of cultural coexistence, mainly the Toledo school of translators, allowed the recovery of Greco-Roman medical wisdom and laid the foundations for a medicine that centuries later would be disseminated with the printing press and the first universities of modern times.

The works of Spanish-Muslim authors such as Avenzoar (Ibn Zhur) and Abulcasis (Abu-l-Qasim) and Averroes (Ibn Rushd) were studied in all European universities until the 17th century, even after the collapse of Galenism. Some of them include the diagnosis and treatment of kidney and urinary tract diseases. *Al-Tasrif*, witten by Abulcasis, is probably the most outstanding. Its 30th volume (also known as *Liber Alsahravi Chirurgia*) is entirely dedicated to surgery (Figure 1). Within it, several chapters (39, 40 and 55 to 70) are devoted to urology and present multiple urological entities, such as phimosis, hydrocele, congenital meatal stenosis and bladder and urethral lithiasis, that could be treated with specific surgical knives and cauteries. For the first time surgical techniques were incorporated into general therapy and placed on the same level as medicine.

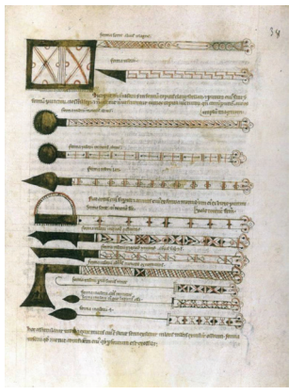


Figure 1: Surgical instruments in copied manuscript of Abulcasis (BNF MS. Latin 7123, fo. 38r).

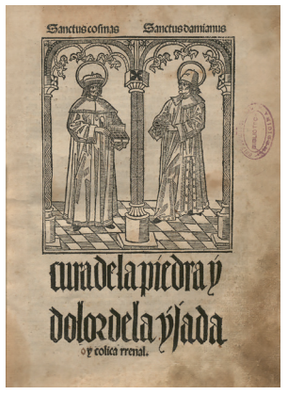


Figure 2: Cura de la Piedra y dolor de la yjada by Julián Gutiérrez de Toledo, printed in Toledo, 1498.

Figure 3: Libro de las Quatro enfermades cortesanas by Luis Lobera, printed in Toledo, 1544.

Figure 4: Libro de la Anothomía del hombre by Bernardino Montaña de Mantserrate, printed in Valladolid, 1551.

Following the period of "Reconquista" and the discovery of America (1492), began an important indigenous medical literature published by doctors of Jewish origin, in which the work of Julián Gutiérrez de Toledo (personal doctor of Isabel I of Castile) stands out, focused on the prevention and treatment of "mal de piedra" (stone disease), a fundamental health concern for the time. He published *De potu in lapidis preservatione* (On drinking in the preservation of stone) in Toledo in 1494, the success of which led him to publish in Spanish *Cura de la piedra y dolor de la yjada o/y cólico renal* (Cure of stone and flank pain or/and renal colic) in 1498, the first purely urological work in world literature (Figure 2).

Under the protection of Charles I (V of the Holy Roman Empire), his chamber physicians published some of the most important works of Spanish Renaissance medicine. Many of them have a partially urological content. A standing contribution is the *Libro de las Quatro Enfermedades Cortesanas, Catarro, Gota, Ciática, Mal de Piedra* (Book of the Four Courtly Diseases, Cold, Gout, Sciatica, Stone Disease) (Figure 3) published in 1544 by Luis Lobera de Ávila (c.1480-1551), that tries to serve the privileged nobles in preserving their health, despite their practices are not in line with moderation. Despite the title, a fifth disease was also covered, "mal de bubas" (bubas disease), because the terrible syphilis epidemic from America, which devastated Europe at the end of

the 15th and 16th centuries, became the most courtly of diseases.

Other major works of this period are by another doctor of Charles I, Andreas Vesalius (1514-1564), with his work *De humani corporis fabrica* (1543) and those by Bernardino Montaña de Montserrate (1480-1558) and Juan Valverde de Amusco (1525-1587). They published the first anatomy texts written in a Romance language: *Anothomía del hombre* (1551) (Figure 4) and *Historia de la Composición del Cuerpo Humano* (1556) Both texts were also very innovative and served to educate medical practitioners and bleeders who did not know Latin.

Political prosperity in Spain during the Renaissance boosted medical innovation and several of the Spanish surgeons contributed significantly to the surgical revolution.

Figure 5: Anatomia del corpo humano by Juan Valverde de Amusco, printed in Rome, 1560 (edition in Italian).

In the field of urogenital pathology, Francisco Díaz (1527-1590), physician to king Philip II, stood out among the first specialised urogenital surgeons in Europe (Figure 6). Díaz obtained the degree of bachelor of arts at the University of Alcalá in 1548, the degree of doctor of medicine in 1555 and the degree of master of arts and philosophy in 1556. He published two works. The first one, *Compendio de chirurgia*, is based on a dialogue between a surgeon and a practician. It was printed in Madrid in 1575. His experience in the diagnosis and treatment of kidney, bladder and urethral diseases was completely reserved for a second masterpiece, also in Spanish. *Tratado nuevamente impresso de todas las enfermedades de los riñones, vexiga y las carnosidades de la verga y orina, dividida en tres libros* was printed, also in Madrid, in 1588 (Figure 7). The treaty describes specialized treatment of urethral stricture using wax candles and several flesh-eating caustics, the surgical instruments for cutting the stone and a device to perform internal urethrotomy for recalcitrant urethral stricture. He called it the "cissorial instrument" (Figure 8). Diaz can be considered the first academic urologist in the world. From a social perspective he took part as expert in the inquisitorial process of a transgender surgeon, named Eleno de Céspedes, from 1587 to 1589.

The Spanish Association of Urology awards the Francisco Díaz Medal, established by Antonio Puigvert in 1972, as its highest recognition to a renowned urologist alternating between Spanish, European and American origin.

Figure 6: Relief with the visage of Francisco Díaz, cloister of San Carlos College of Surgeons, Madrid.

TRATADO
NVEVAMENTE
IMPRESSO, DE TODAS
LAS ENFERMEDADES DELOS
Riñones, Vexiga, y Carnosidades dela verga, y Vrina, diuidido en tres libros. Compuesto por Francisco Diaz Dotor en Medicina, y maestro en Filosofia, por la insigne vniuersidad de Alcala de Henares, y Cirujano del Rey nuestro Señor.

DIRIGIDO AL DOTOR VALLES
Protomedico del Rey nuestro Señor, y Medico de su Camara, &c.

CON PRIVILEGIO.
Impresso en Madrid por Francisco Sanchez.
Año. 1588.

Figure 7: Tratado nuevamente impresso, de todas las enfermedades de los riñones, vexiga y carnosidades de la verga, y urina by Francisco Díaz, printed in Madrid, 1588.

Figure 8: Instrument for urethrotomy invented by Francisco Díaz (Asociación Española de Urología).

The birth of modern urology in Spain

Federico Rubio y Galí (1827-1902) was a multifaceted and philanthropic character, surgeon and federalist republican politician, who practiced in Seville and Madrid. He is the most famous representative of the hygienist movement, which sought to increase hygienic and sanitary structures, and to improve the health of the population with fewer resources (Figure 9). His political ideas led him to be exiled from Spain, and between 1860 and 1864 he took the opportunity to travel around Europe and train as a surgeon, working with important figures like William Fergusson (1808-1877), Alfred-Armand-Louis-Marie Velpeau (1795-1867) and Auguste Nèlaton (1807-1873). As happened in France, the United Kingdom, Germany and other countries, surgery was gradually beginning to be broken down into different branches or specialties.

Figure 9: Sculptured bust of Federico Rubio Galí by Antonio Susillo, Museo del Prado.

Figure 10: Luis González Bravo-Serrano, 1876.

In 1880, Rubio founded in Madrid the Institute of Operative Therapeutics, where he began surgical specialisation in Spain. Years before, in 1874, he had performed the first nephrectomy in Spain. Starting in 1885, Enrique Suénder Rodríguez (1829-1897), a military surgeon with great interest in urological surgery, became responsible for the teaching unit dedicated to the treatment of genitourinary conditions. He is considered the first Spanish urologist. His assistant, Luis González-Bravo y Serrano (1855-1929), succeeded him as head of urological pathology at the institution that was then known as the Rubio Institute. In 1911 González-Bravo became the first president of the Spanish Association of Urology (Figure 10).

Another fundamental figure for the dissemination of urology in Spain at the beginning of the 20th century was the illustrious Joaquín Albarrán y Domínguez (1860-1912), a Spaniard born on the Island of Cuba, who as a child moved to Barcelona to study medicine, and later to Madrid to obtain a doctorate at the age of 17. Due to his young age, he was not allowed to practice as a doctor after obtaining his doctorate. He moved to Paris to complete his training, deciding to study medicine again. Felix Casimir Guyon (1831-1920) noticed the talent of this young man, who soon became the famous professor's successor and directed the Urinary Tract service at the Necker Hospital in Paris (Figure 11). Although Joaquín Albarrán developed his entire brief but spectacular professional career in Paris, he never renounced his Spanish origin (nor his beloved Cuba). For this reason, among the numerous disciples he trained from all over the world, Spaniards and Latin Americans of different nationalities always stood out. These established links helped urology germinate in their respective countries.

Figure 11: Professor Joaquín Albarrán, 1912.

Among Albarrán's many Spanish assistants and disciples, the figure of Leonardo de la Peña Díaz (1875-1957) stood out, who became the first professor of urology at a Spanish university (Figure 12). In the Spanish Civil War Leonardo de la Peña led a surgical team on the nationalist side. After the war, he was director of the San Carlos Clinical Hospital and controversially chaired the political purge committee that

Figure 12: Professor Leonardo de la Peña Díaz, 1945.

ended the professional careers of many doctors accused of loyalty to the Republic.

Another very important figure in Spanish Urology during the first half of the 20th century was Pedro Cifuentes Díaz (1881-1960), a great surgeon and president of the Spanish Association of Urology for two terms and its reorganiser after the Civil War (Figure 13).

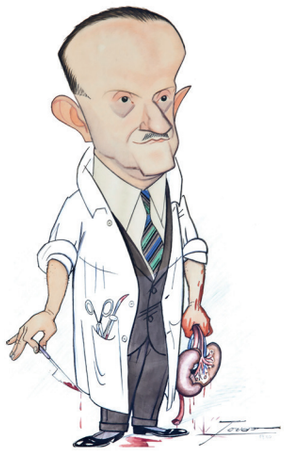


Figure 13: Caricature of Pedro Cifuentes by Tovar, 1920.

The Great Masters of Urology in Spain

It is very difficult to make a list of the main Spanish urologists of the 20th and 21st centuries, because there are many. However, among all of them, some undisputed masters stand out, who have given rise to great professional schools.

Antonio Puigvert Gorro (1905-1990) trained with the professor of Anatomy Manuel Serés Ibars (1877-1928), who was responsible for urological teaching at the University of Barcelona. After training in Bern and Paris, thanks to a scholarship given by a grateful patient, he settled at the Hospital of the Holy Cross and Saint Paul in Barcelona, directed by Joaquín Mestre Morer (1853-1938). In 1954 his dream of creating the Urology Institute of the Santa Creu i Sant Pau Hospital was fulfilled, an entity with administrative independence from the rest of the hospital, which in 1961 became the Puigvert Foundation (Figure 14).

Another Catalan urologist, José María Gil-Vernet Vila (1922-2020), who developed his professional life at the Hospital Clinic of Barcelona, occupies a golden place on the podium of the great masters and surgeons of Spanish urology (Figure 15). José María specialised with his father, the anatomy professor and surgeon Salvador Gil Vernet (1892-1987), creator and main promoter of the Professional School of Urology in Barcelona who exquisitely studied the pelvic nerve plexuses and the bladder, prostate and urethral neuromuscular system. Thanks, not only to the figure of his father but also to his incredible skill as a surgeon, José María Gil-Vernet introduced numerous surgical techniques in different fields, especially in reconstruction and transplantation. In fact, he has the merit of having performed the first successful kidney transplant in Spain on July 23, 1965. In 1978 he performed the world's first transplant of a human testicle.

In the race to obtain a kidney transplant in Spain, José Antonio Martínez-Piñeiro Caramés (1927-) in 1960 carried out the first kidney transplant of homozygous twins at the Provincial Hospital of Madrid. He developed the Urology service at the La Paz Hospital in Madrid, one of the most productive Spanish hospitals that has generated an almost unprecedented modern urological school. This excellent surgeon has also pioneered numerous techniques and discovered BCG as immunotherapy in non-muscle-invasive bladder cancer (Figure 16). He has also supported multicentre European research groups with large casuistries. He received the Willy Gregoir medal from the European Association of Urology in 1992, as would his son Luis Martínez-Piñeiro Lorenzo (1961-) in 2023.

Figure 14: Antonio Puigvert in his clinic.

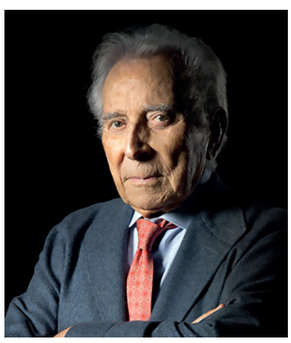


Figure 15: José María Gil-Vernet Vila.

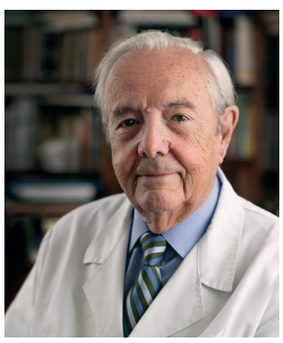


Figure 16: José Antonio Martínez-Piñeiro Caramés.

Urogenital problems in Spanish royalty

Spain was one of the earliest countries in Europe to consolidate as a kingdom. The ruling continuity of Isabel of Castile and Ferdinand of Aragon and their successors, allowed the construction of an enormous economic and cultural empire, also supported by the unification of Spain and the discovery of America in 1492. These were the historical milestones that initiated Modern Age in Spain.

Several of the kings of the Trastamara and Habsburg (House of Austria) dynasties suffered from medical problems, which have determined the evolution of their country and are partly responsible for the rise of medical knowledge during the 15th and 16th centuries. Especially Henry IV (the impotent), Charles I (Charles V of the Holy German Roman Empire) and Charles II (the bewitched) are interesting because of their urogenital problems.

King Henry IV, the impotent

The alleged inability of King Henry IV of Castile (1425-1474) to father children sustained one of the most important political crises in the history of Spain, which led to the reign of the Catholic Monarchs. The supposed impotence of Henry IV and hence his inability to procreate was used to justify the illegitimacy of his daughter Juana to reign. Examination of his skeleton by Gregorio Marañón indicated that the King suffered eunuchoid dysplasia with acromegaly. Recently, it has been suggested that the monarch suffered from a rare disease, McCune-Albright syndrome, which produces polyostotic fibrous dysplasia and endocrine disorders, including macroorchidism, testicular microlithiasis and Sertoli and/or Leydig cell hyperplasia.

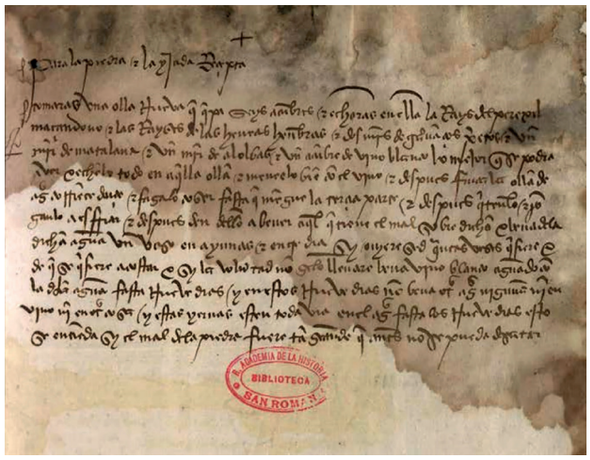


Figure 17: Recipe book of King Henry IV (Ms. 46, ff. 123r-130v, Royal Academy of History).

If that was the case, fertility would have obviously been impacted but erectile function should not have been affected. This fact is consistent with the recent finding of the king's recipes that treat hyperuricaemia and renal stones, but not impotence (Figure 17).

Figure 18: King Charles I, portrait by Jan Cornelisz Vermeyen.

King Charles I or emperor Charles V

King Charles I of Spain or Emperor Charles V of the Holy Roman Empire (1500-1558) suffered from numerous medical problems. He was treated by several medical doctors, which accompanied him permanently all his life. He suffered from prognathism, which caused excessive gluttony and eating problems he compensated with extreme voracity (Figure 18).

Furthermore, as Francisco Díaz mentions in his Treatise (fol. 310v), he required urethral dilation with caustic candles by his master surgeon Felipe Vélez. There has also been speculation about the possibility that Charles V suffered from uric stones, and that this was the cause of the fevers he suffered at the end of his days. The study of the monarch's little finger, has confirmed that he suffered from gout and malaria. He was indeed treated for lithiasis, syphilis, gonorrhoea and caruncles, as revealed in the works of his doctors Francisco López de Villalobos (1473-1549), Luis Lobera de Ávila (c.1480-1551) and Andrés Laguna (c.1510-1559).

King Charles II, the bewitched

Charles II (1661-1700) was the last Habsburg king of Spain. His nickname is due to his abnormal physiognomy, limited intellectual abilities and sterility, which was

Figure 19: King Charles II, portrait by Juan Carreño de Miranda.

thought to be due to witchcraft spells. He had serious health problems since birth, likely caused by marked inbreeding and consanguinity of the Habsburg dynasty. The accumulation of several recessive genetic disorders could explain his developmental delay, intellectual disability, dysarthria, skeletal deformity, recurrent infections, hydrocephalus, epilepsy and infertility.
Several diagnoses have been proposed including Klinefelter syndrome, de la Chapelle syndrome (XX male), hermaphroditism or Fragile-X syndrome. Additionally aspartylglucosaminuria, an autosomal recessively inherited lysosomal storage disorder, could account for both the facial features and other neurological and psychiatric aspects of the king's personality (Figure 19).

Paradoxically, the king acceded to the throne at the age of three and managed to live to the age of thirty-eight, quite an achievement in view of his poor health. His death without heirs caused the War of the Spanish Succession and ended the ruling of the Spanish Habsburgs. The consequence was the establishment of the royal dynasty of the Bourbons in Spain.

The 2025 Ernest Desnos Prize Winner

The 2025 Desnos Prize for contributions to the History of Urology is awarded to Prof. Peter Rathert. Prof. Rathert passed his medical exam in Göttingen, Germany 1966 and became a urologist in 1973, working and teaching primarily in Aachen and then leading the urological clinic in Düren until his retirement in 2003. He was specialised in urological cytology and oncology.

Prof. Rathert (right) is also a Wagner enthusiast and expert. Here he is pictured in Bayreuth in 2022 with his successor as the DGU's archivist, Prof. Dirk Schultheiss.

Prof. Rathert developed an interest in the history of urology as a resident at the University of California in 1966, discovering documents related to Philipp Bozzini (1773-1809), the father of endoscopy. In 1987, Prof. Rathert became archivist of the German Society of Urology (DGU), greatly expanding its collections and laying the foundation for the DGU's current museum in Berlin. He was the first to propose a working group on urological history within the DGU, also contributing to the foundation of the EAU's History Office in 1994. Prof. Rathert has published extensively on the history of the field, including books on the history of the DGU, urological biographies, and urology in Germany.

The Desnos Prize has been awarded since 2018. It is named after Ernest Desnos (1852-1925) a French urologist who published the first book dedicated to the history of urology, *Histoire d'Urologie* (1914). In effect this made Desnos the first urological historian. The prize is awarded every year for individuals or organisations who made a large contribution to the study of the history of urology.

Prof. Rathert will be honoured with the Desnos Prize at the EAU25 Opening Ceremony held in eURO Auditorium 1 on Friday, 21 March from 18:00

The EAU History Office at EAU25

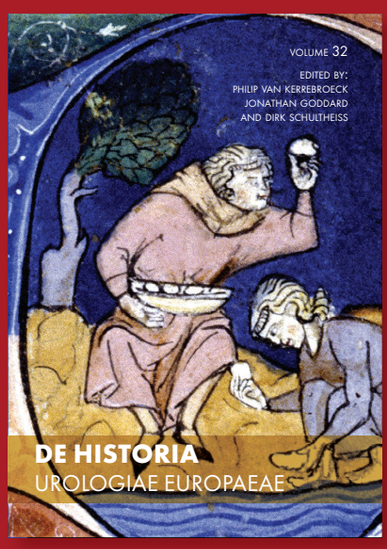
Abstract Session 11:
History of Urology
Saturday, 22 March 12:15-13:45
Green Area, Retiro

Thematic Session:
Urological pearls in the history of Spanish urology
Saturday, 22 March 15:30-17:00
Green Area, Retiro

New Publications at EAU25

EAU25 Congress Gift for EAU Members: *Human Fertility and Infertility: From Prehistory to the Present*

This richly illustrated book aims at presenting human fertility and infertility from prehistory to the present, and illustrates the unique aspects of pregnancy, birth, and parenthood in the past, but also in the modern world with new forms of maternity and paternity. The authors, a urologist and a gynaecologist, also discuss how different cultures worldwide dealt with the biological and psychological facts of reproduction and illustrate how the arts were inspired by the image of parenthood.



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