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**Review article**

**The life and legacy of William Ernest Miles (1869-1947):  
a tribute to an admirable surgeon** ☆

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**A B S T R A C T**

The present article aimed to review some important aspects regarding the work and life of the legendary English surgeon William Ernest Miles. His masterwork began at the beginning of the 20<sup>th</sup> century, when he devised the first radical procedure that aimed to control rectal cancer, after analyzing the poor outcomes of perineal resections for the disease. The famous 1908 publication, focusing on the technique and early results of abdominoperineal excision influenced numerous surgeons for decades, at a time when most rectal tumors were managed through rectal amputation, regardless of their location. Miles was recognized as a brilliant, fast, and skilled surgeon, and his fame attracted many surgeons to watch him at work in London at that time. He was also recognized as a gentle and kind man who became a trusted leader in coloproctology. In this context, he also made various contributions in the field of anorectal diseases, such as hemorrhoids, anal fistula, anal fissure, and rectal procidentia. Thus, he deserves the honors as the pioneer in the elaboration and refinement of a surgical technique that allowed a significant decrease in tumor recurrence and mortality. Furthermore, the Miles operation shifted the perspectives of rectal cancer, and for that his name will always be regarded as one of the giants in the history of colorectal surgery.

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**William Ernest Miles (1869-1947): tributo a um cirurgião admirável**

**R E S U M O**

O presente artigo teve como objetivo rever alguns dos aspectos importantes referentes ao trabalho e à vida do legendário cirurgião inglês William Ernest Miles. Sua obra-prima teve início no começo do século XX, quando ele concebeu o primeiro procedimento radical para controlar o câncer retal, após analisar os pobres resultados das ressecções perineais para a doença. Sua famosa publicação em 1908, focalizando a técnica e os resultados preliminares da chamada excisão abdômino-perineal do reto, influenciou muitos cirurgiões durante décadas, quando a maioria dos tumores retais era tratada por amputação do reto independentemente de sua localização. Miles era reconhecido como um cirurgião brilhante, rápido e habilidoso, e sua fama atraiu numerosos outros cirurgiões para vê-lo trabalhar em Londres nessa época. Apesar disso, era considerado um homem gentil e amável que

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se tornou um verdadeiro líder em coloproctologia. Nesse contexto, ele também fez várias contribuições no campo das doenças anorretais como hemorroidas, fístula anal, fissura anal e procidência retal. Por isso, ele merece todas as honras por ter sido o pioneiro na elaboração e no refinamento de uma técnica operatória que viabilizou uma redução significativa na recidiva tumoral e mortalidade. Assim, a operação de Miles mudou as perspectivas do câncer retal e por isso seu nome será sempre reconhecido como um dos gigantes na história da cirurgia colorretal.

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## Introduction

From the turn of the century through the initial decades of the 20<sup>th</sup> century, most rectal tumors were excised through the perineal approach, popularized by the British surgeon Lockhart-Mummery of St. Mark's Hospital. This approach enclosed a perineal resection several weeks after a sigmoidostomy.<sup>1</sup>

Despite the low morbidity associated with this procedure, this resection was not curative. After performing 57 perineal resections with only one death from 1899 to 1906, William Ernest Miles (Fig. 1) diagnosed early recurrences in 54 (95%) patients who he personally examined after death, describing recurrences within the pelvic peritoneum, mesocolon, and lymph nodes situated at the bifurcation of the left common iliac artery.<sup>2</sup>

These observations led him to the “cylindrical concept”, a theory that tumor spread occurred in all directions through the lymph nodes and was responsible for the locally recurrent disease. Following the same principles defended by Wertheim for uterine cancer, Miles subsequently proposed a radical operation to remove the rectal cancer and its lymphatic drainage by a simultaneous abdominoperineal approach, for which he became universally famous since the publication of an article in 1908 (Fig. 2).

In 1923, Miles emphasized the importance of the abdominal phase of the operation, through which it was possible to evaluate operability and to control the zone of upward

spread.<sup>3</sup> But the one-stage resection was not widely adopted at that time, because many surgeons still preferred to perform a two-stage procedure (colostomy and rectal mobilization by laparotomy, followed by perineal rectal resection) aiming to limit blood loss and surgical shock. The one-stage approach became more popular only after Lloyd-Davies published the use of adjustable leg rests for the lithotomy-Trendelenburg position.<sup>4</sup>

Although Miles was not the first to excise a rectal malignancy, or to perform this combined resection (the pioneer was Vincent Czerny in 1884), his name will be forever associated with this procedure.<sup>5,6</sup> Thus, he deserves the credit for having shifted the perspective of rectal cancer surgery from a R2 to a radical operation for the first time, causing a significant decrease in tumor recurrence and mortality over the years (from 50% to 18%).<sup>7</sup> Moreover, he proposed a procedure with an improved rectal exposition when compared to the current techniques at the time.<sup>8</sup>

In a very interesting review of rectal cancer surgery, Lange et al. stated that “although today the abdominoperineal resection (APR) is performed in only a minority of patients, wider perineal and pelvic floor resections for low rectal cancers have regained interest again, from which it may be



**Fig. 1 – William Ernest Miles (1869-1947). The English surgeon who developed the abdominoperineal excision of the rectum.**

### A METHOD OF PERFORMING ABDOMINO-PERINEAL EXCISION FOR CARCINOMA OF THE RECTUM AND OF THE TERMINAL PORTION OF THE PELVIC COLON.

By W. ERNEST MILES, F.R.C.S. ENG., L.R.C.P. LOND.,  
SURGEON TO THE CANCER HOSPITAL, BROMPTON,  
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OF THE RECTUM, VAUXHALL BRIDGE/ROAD, S.W.

REMOVAL of the rectum by a combined abdominal and perineal operation was first performed by Czerny in 1884. Since that time several other surgeons, notably Maunsell, Chaput, Gaudier, Challot, Weir, Boechal, Giordino, Quénu, Reverdin, Tuttle, Gant, Mathews, Sir Charles Ball, Wallis, and Aldrich-Blake have employed the method with certain modifications of procedure and with varying success in regard to mortality. So far as I have been able to gather from the literature of the subject, however, the technique of these operators seems to have failed in one important respect—namely, the complete eradication of the zone of upward spread of cancer from the rectum, whereby the chance of recurrence of the disease, above the field of operation, can be diminished if not entirely obviated.

**Fig. 2 – First page of Miles' classical article, published in 1908.**



**Fig. 3 – Picture of the Gordon Hospital for Rectal Diseases, where Miles did most of his professional work.**

concluded that Miles is influencing rectal cancer surgery as much as he did 100 years ago”.<sup>6</sup>

As a tribute to this important surgeon, it was decided to search for the most representative articles focusing on Miles’ contributions as a surgeon. During the course of the literature review, it was also decided to make a compilation of his main achievements, personal life, and legacy.

### Medical training and professional work

William Ernest Miles was born on January 15, 1869, in Uppingham (England). He qualified as a medical doctor in 1891 at St. Bartholomew Hospital in London. Since the beginning of his career, he developed his practice as a general surgeon with special interests in rectal surgery, as he was greatly influenced by Harrison Cripps, who was awarded by the Royal College of Surgeons in 1874 for his work on rectal cancer.<sup>6</sup>

In 1894, at age 25, he became a fellow of the Royal College of Surgeons of England. He practiced anatomy demonstrations at St. Bartholomew’s Hospital from 1896 to 1899 and worked as house surgeon at the St. Mark’s and Metropolitan Hospitals.<sup>7,8</sup> During this period, he collaborated with David Goodsall, a senior surgeon from St. Mark’s Hospital, and published two editions (in 1900 and 1905) of the classic masterpiece of rectal surgery, “Diseases of the rectum and anus”.<sup>9</sup> Later, in recognition of his early training in rectal surgery, Miles dedicated his own book to Goodsall in 1939.<sup>10</sup>

This work helped him to be appointed to the Royal Cancer Hospital in London (now the Royal Marsden Hospital) in 1899, where he developed most of his professional career. Later, he was also appointed to the surgical staff of the Gordon Hospital for Rectal Diseases (Fig. 3), which had a great rivalry with St. Mark’s in those days, due to his brilliant work in rectal surgery.<sup>8,11</sup> Over the years, his reputation attracted surgeons

from all over the world to watch him operate at this hospital, including the Mayo brothers and Lord Moynihan.<sup>6,8,12</sup>

### Technical skills and personality

In a classic article about his life, Marvin Corman classified Miles as “a master ambidextrous surgeon, a brilliant and dexterous craftsman”.<sup>13</sup> John Goligher stated that APR performed by Miles was “one of the sights of London surgery in the 1920s and 1930s”.<sup>14</sup> He personally testified that the abdominal phase usually didn’t take more than 40 minutes, and that the perineal phase would be finished with astonishing rapidity in six to seven minutes. His best friends used to say that he loved to talk about the development of APR, discussing all the controversies he had to face, and how he gradually reduced the time of APR, so it could be accomplished in less than one hour and a half. This legendary manual dexterity was even reported in one of Miles’ obituaries.<sup>12</sup>

According to one of his assistants, the operation in his hands was an “exhibition of unhurried speed”.<sup>11</sup> He once performed an impressive surgical demonstration, in which he finished the abdominal part of the operation in 27 minutes and the perineal part in only three minutes. After watching that, Lord Moynihan (Sir Berkeley Moynihan) asked Miles if was possible to bring his whole surgical team from Leeds to watch him.

During operation, he usually had only one surgical assistant. One of his assistants, Dr. Colin Cromar, disclosed that he was generous and respected person, and that he was called “the old man” by his friends. He never said an unkind word to anyone.<sup>11</sup> When the operation was over, he used to say: “It is really an easy operation, isn’t it?”. He would also state some famous thoughts regarding technical rules, such as “never cut what you cannot see” and “always know what you are going to do next”.

### Miles ideas and other contributions

During his career, Miles didn’t publish much, since he was a surgeon devoted to practical aspects and work, and preferred to teach his ideas during conversations and lectures. “Only write if you have something to say”, he used to say. He once wrote that “there is a limit to knowledge that can be gained from reading or books. The best book of all is one whose leaves are represented by the patients in the outpatient clinics and in the wards of the hospitals especially devoted to the practice of rectal surgery”.<sup>11</sup>

Due to this personal feature, a curious fact occurred. The careful audit of his observations helped Miles devise the first radical operation for an almost always fatal disease. His ideas prevailed over surgeons’ minds for decades, and APR became the standard operation for rectal cancer regardless of tumor height. After two years of performing APR, Miles was informed by a friend that another surgeon, who had already seen him at work, was writing a paper about the technique in order to publish in his name. Thus, he rapidly drafted a descriptive manuscript and mailed it in the middle of the night for the next issue of the *Lancet*.<sup>11</sup>

Despite these great contributions on rectal cancer surgery, he also developed important practices in other surgical fields. He had great experience with operations for hemorrhoids and fistula, based on the principles practiced by Salmon, the founder of St. Mark's Hospital. During his work for the British Expeditionary Forces in French and Belgian military hospitals (1914-1918), Miles treated many soldiers suffering from hemorrhoidal disease. His experience with over 5,000 cases led him to write an article entitled "Observations upon internal piles" in 1919, bringing important contributions to the classification of hemorrhoidal disease and anatomical descriptions.<sup>15</sup>

His ideas on hemorrhoidal disease and other anorectal affections, such as anal fistula and fissure, are considered to have influenced further works from Milligan and Morgan,<sup>16</sup> Parks,<sup>17</sup> and Goligher.<sup>18</sup> Besides that, Miles believed that a sepsis was not important in this area of anorectal diseases, due to its contaminated nature. He used to say<sup>11</sup>: "If you want to understand the surgery of the anus, go and get a book that was written before the days of Lister".

He also gave important lectures. In 1923 he was responsible for the Lettsomian Lectures to the Medical Society of London on rectal cancer.<sup>3</sup> In 1931, he delivered a lecture on anorectal fistula to the Royal Society of Medicine in London, which is considered his finest piece of work.<sup>19</sup> In 1933, he reported his experience in the treatment of rectal prolapse, showing his results on 31 cases and only one death after rectosigmoidectomy (Mikulicz amputation).<sup>20</sup>

During his active career, he received many surgical awards, including a Hon-FACS (1930), a Hon-FRCSI (1934), and the Lettsomian Lectureship. He was also president of the Proctological Section of the Royal Society of Medicine, an honorary fellow of the American Proctological Society, and a foreign associate of the French Academy of Surgery.<sup>8</sup>

There are some curious facts about his life. One of them is that he defended himself in a famous court case in 1930, brought by a patient who alleged he had forgotten a pair of artery forceps inside her abdomen. Miles proved that it had already been left there during a hysterectomy the patient had previously undergone in Paris.<sup>8</sup> On another occasion, he was severely questioned by a young surgeon during a meeting in Manchester, and in this debate he answered that "although he had studied rectal diseases for the last 35 years, he was not able to compete with young geniuses that were born knowing it all".<sup>11</sup>

He also had progressive ideas for his time. In a Lancet editorial, he defended that women should be admitted to the Royal College of Physicians and to the Royal College of Surgeons (RCS), even knowing that he was a lone voice, as the RCS had already decided they were not interested in their admittance.<sup>21</sup> In this paper, his answer to those who argued that "it was a horrible sight to see women operate," was that "it could be equally horrible to watch some men operate!"

Curiously, he contracted a staphylococcal myocarditis after an oyster meal offered by one of his patients who was grateful for being cured through an APR five years prior. This disease affected his activities for one year.<sup>11</sup> Against his will, he was retired from the Royal Cancer Hospital at the age of 60, but he continued to work at the Gordon Hospital. During the third decade of the century, medical doctors from several centers

went to the Gordon Hospital and to St. Mark's Hospital to watch him at work.

He obtained worldwide recognition among his peers and received many awards, such as the title of honorary fellow of the American College of Surgeons in 1930, and of the Royal College of Surgeons in 1934. Moreover, he also received academic honors from Ireland, France and Greece.<sup>13</sup>

However, he had never sought professional fame, having gained many friends and few enemies during his life. On his last birthday, he received a gift from the staff at St Mark's Hospital, and they referred him as "a great friend and trusted leader in proctology".<sup>8,11,22</sup>

Aside from his work, enjoyed tennis, golf, and swimming, but his preferred recreation was to assist horse races. After the death of his first wife, he married Janet Mary Loxton in 1944, who was considered a gracious and attractive woman.<sup>11</sup>

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### Miles by his friends

In his intriguing biography, his friend Dr. Colin Cromar stated that, after returning from America in January, 1947, Miles asked him what did the Americans think about his operation. After he had told him they were trying to perform restorative procedures to treat upper rectal lesions, Miles argued against them: "They are wrong. There is no place for conservatism in the treatment of malignant disease".<sup>11</sup>

However, his concept concerning distal spread was later considered to be overestimated, and this idea initiated the historical shift to sphincter-saving procedures.<sup>23</sup> Nevertheless, most of his principles concerning en-bloc resection of rectal cancer and lymph nodes still form the basis of a radical procedure.<sup>24</sup>

According to other texts rendering some tribute to Sir Ernest Miles, "he will not only be remembered by the formulation of his abdominoperineal excision, but also for the teaching of sound competent principles and practice of surgery, and by his personal care of many thousands of patients".<sup>7,12,25,26</sup>

In another fine article, the author calls the attention that "after creating a radical change in the philosophy of resection, only Heald et al. have provided a new concept towards the conduct of this operation in the last 100 years". Thus, "one can only assume that Miles is influencing current coloproctology as much as he ever did".<sup>8</sup>

Although facing a long period of failing health, Miles worked until his death at 106 Hallam Street in London on September 24, 1947. His eulogy at the crematorium was given by an eminent surgeon, Sir Gordon-Taylor.<sup>27</sup>

According to his friend Burghard, "the death of Ernest Miles has removed one whose name was known wherever surgery is practiced".<sup>12</sup> Another colleague, Lawrence Abel, wrote: "So long as cancer of the rectum can only be cured by the surgeon, Miles' name will be honored for the pioneer work he did and for the firm foundation of pathology and splendid superstructure of finished technique he has bequeathed. . .".<sup>28</sup>

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### Conflict of interest

The author declares to have no conflict of interest.

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