

Neurological contributions from William Osler

As contribuições neurológicas de William Osler

José Luiz Pedroso, Orlando Graziani Povoas Barsottini

ABSTRACT

William Osler was one of the most remarkable clinicians worldwide, and his teachings in medical practice remain until the present days. Although Osler had never considered himself a neurologist, he contributed with clinical and pathological descriptions of numerous neurological diseases. He performed more than 800 autopsies studies of the nervous system and published over 200 articles in the field of Neurology. In this article, we described the main neurological contributions from William Osler.

Key words: William Osler, Neurology, central nervous system.

RESUMO

William Osler foi um dos médicos mais notáveis da história, e seus ensinamentos sobre a prática médica permanecem até os dias atuais. Embora Osler nunca tenha se considerado um neurologista, contribuiu com descrições clínicas e patológicas de numerosas doenças neurológicas. Osler realizou mais de 800 autópsias do sistema nervoso e publicou mais de 200 artigos na área da Neurologia. Neste artigo, descrevemos as principais contribuições neurológicas de William Osler.

Palavras-Chave: William Osler, neurologia, sistema nervoso central.

Who was William Osler? Why has his name become so important as an example to clinicians worldwide, even after so many years? Sir William Osler was born in Bond Head, Ontario, in 1849. He entered university in Toronto and moved to Montreal to complete the final two years, becoming a medical doctor in 1872. Osler spent some years in postgraduate education in Europe and returned to Dundas, where he started to work as a local practitioner^{1,2}.

From 1874 to 1884, he was invited to teach at McGill. During this time, Osler began to develop a reputation as a gifted teacher and an astute physician, with great empathy for his students and for his patients. No physician has exerted a greater influence on how physicians should behave than William Osler. His essays on the practice of Medicine, his leadership in medical organizations and his personal charisma established a paradigm that has served as a model for physician behavior at the bedside^{1,2}.

In 1885, Osler moved to Philadelphia and was appointed as official pathologist at Blockley Hospital soon after his arrival. In 1889, Osler became head of medicine of the Johns Hopkins Hospital in Baltimore. His medical contributions included a remarkable textbook called "The Principles and Practice of Medicine". In the following years, Osler worked

to introduce the concept of the student at the bedside, rather than constantly listening to lectures. Also, he is known as the creator of the medical residency model. This approach has swept the continent over the next 30 years until today. Osler moved to Oxford, England, in 1905, to take with great honour the position of Regius Professor of Medicine at Oxford University (Fig 1)¹⁻⁴. His close friends included Mitchell and Cushing in America, as well as most of the leading English neurologists including Ferrier, Horsley, Sherrington and Gowers, whom Osler referred to as "that brilliant ornament of British Medicine".

Osler had an enormous interest for general clinical medicine, so that his students named him Father of Dermatology, Father of Gastroenterology and so on. He was one of the first to describe platelets in 1876, wrote monographs on abdominal tumors in 1895 and about malignant endocarditis in 1908. Osler drew attention to Osler's nodes of endocarditis. In addition, Osler described polycythemia rubra vera in 1903. Hereditary telangiectasia with recurrent haemorrhages, also known as Osler disease, was described by Osler in 1908^{3,4}.

Osler contributed to studies on cerebral localization, cerebrovascular syndromes, peripheral neuropathies and movement disorders. Other neurological contributions included

MD, PhD, Department of Neurology, Division of General Neurology and Ataxias, Universidade Federal de São Paulo (UNIFESP), São Paulo SP, Brazil.

Correspondence: José Luiz Pedroso; Rua Botucatu 740; 04023-900 São Paulo SP - Brasil; E-mail: jlpedroso.neuro@gmail.com

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papers on concussion, brain tumors, aneurysms, cerebral emboli, infantile paralysis, meningitis and cerebrospinal fever. In his textbook, “The Principles and Practice of Medicine”, Osler wrote an extensive section on diseases of the nervous system. His contributions placed him among the foremost neurologists of the period. He published around 200 papers on Neurology, an output of quality exceeded by very few full time Neurology professors even today. His interest in the nervous system remained life-long. Some monographs published by Osler include “Chorea and Choreiform Affections” (1894), “The Cerebral Palsies of Children” (1889) and “The Cardiac Relations of Chorea”. During his daily clinical practice, Osler used the rim of his stethoscope to tap deep tendons reflexes and described the word blindness in the same year as Dejerine. He made the first description of familial amyotrophic lateral sclerosis in the Farr family, whose gene was discovery more than a century later. Osler also wrote several papers on meningitis spanned the emergence of bacteriological diagnosis^{5,6}.

Surprisingly, some years after Osler’s death, a publication of an autopsy certifying his diagnosis of multiple sclerosis (MS) in a patient thought to have Parkinson’s disease demonstrated a contribution in MS description. At that time, little was known about the pathophysiology of subdural hematoma, believing to be caused by an inflammatory process, a mystery also elucidated by Osler. He participated in several pathological studies of the brain, which made him a great expert on the subject (Fig 2). Osler conducted neuropathological studies in around 800 consecutive autopsies at the Montreal General Hospital. Among neurological disorders, Osler witnessed several autopsies of patients with cerebral

glioma^{5,7}. His mentorship role for Harvey Cushing and Wilder Penfield is well outlined in his biographies⁸.

Because of Osler’s insightful analysis on clinical and pathological information about chorea, this syndrome had a particular phenomenological category in Neurology field. Sydenham’s and Huntington’s chorea were the prototypes and became distinctly described. He divided the discussion of chorea into the following topic areas: clinical description, etiology, treatment and differential diagnosis⁹.

Although Osler had made numerous seminal neurological contributions, he never considered himself a neurologist. At that time, Osler made regular visits to Charcot, for whom he had great admiration, in order to improve their knowledge in the field of Neurology and acquire new teaching techniques. One year after Charcot’s death, in 1894, Osler published “On Chorea and Choreiform Affections”, and in this monograph, he performed a particular exposition on Charcot’s neurological contributions. Also, Osler summarized the current knowledge of choreic disorders and supplemented the text with extensive information from his own clinical practice and experience in Philadelphia and Baltimore. Charcot, and Osler as well, are on the tier of great clinicians of medical history⁹⁻¹¹.

Osler became Sir William in 1911. On 29 December 1919, he died in Oxford due to pneumonia and empyema.

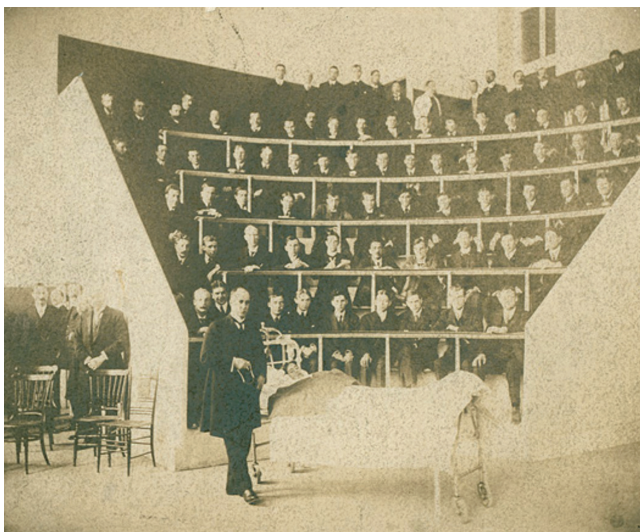


Fig 1. William Osler conducting a clinic at the Royal Victoria Hospital in Montreal. The photograph was taken in 1905, just as Osler was leaving Baltimore and Johns Hopkins Hospital to take the position of Regius Professor of Medicine at Oxford University. This figure is used with permission from Osler Library of the History of Medicine, McGill University.



Fig 2. William Osler performing a brain autopsy at the Blockley Mortuary in Philadelphia. Osler was appointed an official pathologist at Blockley Hospital soon after his arrival in Philadelphia; he was Chair of Clinical Medicine at the University of Philadelphia from 1884–1889. This figure is used with permission from Osler Library of the History of Medicine, McGill University.

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