

William Macewen

Sir William Macewen, (22 June 1848 – 22 March 1924) was a Scottish surgeon. He was a pioneer in modern brain surgery and contributed to the development of bone graft surgery, the surgical treatment of hernia and of pneumonectomy (removal of the lungs).



Following the work of John Hughlings Jackson (1835–1911) and David Ferrier (1843–1924) on neurological mapping of functions in the brain, Macewen demonstrated in 1876 that it was possible to use a precise clinical examination to determine the possible site of a tumor or lesion in the brain, by observing its effects on the side and extension of alterations in motor and sensory functions. Thus, in 1876 he diagnosed an abscess in the frontal lobe of a boy, but the family refused permission to operate. When the patient died his diagnosis and localisation were found to be correct.

He performed the first successful intracranial surgery where the site of the lesion (a left frontal meningioma) was localised solely by the preoperative focal epileptic signs (twitching of the face and arms in the opposite site of the lesion). On the basis of these signs Macewen thought that there was good evidence of an “irritation to the lower and middle portions of the ascending convolutions in the left frontal lobe. A trephined hole in the skull near the purported site of the lesion showed a big subdural tumor. The patient, a teenage girl, lived for eight more years, and a subsequent autopsy showed no trace of the tumor. He later used this many times to successfully operate on brain abscesses (in 1876) and hematomas and on the spine. This was a great triumph of medicine.

According to one of his biographers, “his thorough knowledge of the natural history of pyogenic diseases of the temporal bone and nasal sinuses, in addition to his clear description of cranial anatomy, as illustrated in his *Atlas of Head Sections*, were especially important in developing his successful treatment of brain abscess. The X-ray had not yet been discovered; Macewen's diagnosis was based on clinical findings superbly illustrated by his three clinical stages of brain abscess development”

In his classic work, *Pyogenic Disease of the Brain and Spinal Cord, Meningitis, Abscess of the Brain*,

Infective Sinus Thrombosis, published in 1893, William Macewen advised draining the abscess and treating the underlying causative sinus infections ¹⁾.

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Pyogenic Infective Diseases of the Brain and Spinal Cord; Meningitis, Abscess of the Brain, Infective Sinus Thrombosis. Annals of Surgery. 1894;20(4):489-494.

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