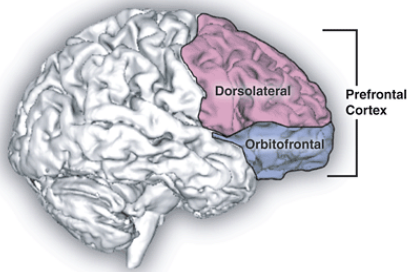


A historical critique of leucotomy

1 The history of leucotomy

Today leucotomies are seen as horrific due to being ethically and morally abhorrent, often causing severe mental debilitation or even death if performed improperly, and having little benefit on the mental health of the patient. One popular example of the failure of leucotomy is the case of Rosemary Kennedy, sister of John F. Kennedy, who received a lobotomy from Walter Freeman in 1941, rendering her incapacitated for the remainder of her life [11]. In the current day we have more viable and successful treatments from various different medications or talking therapies.

The term leucotomy (also sometimes referred to as prefrontal leucotomy) is used interchangeably with lobotomy - though there are nuanced differences. The leucotomy was pioneered by the portuguese neurologist Egas Moniz in 1936, for which he was awarded a Nobel prize for in 1949 [10]. The procedure involved severing or removing brain tissue in the prefrontal cortex with a leucotome via a small hole made in the skull.



(a) Prefrontal cortex, [Wikimedia Commons](#)



(b) Leucotome, [Wikimedia Commons](#)

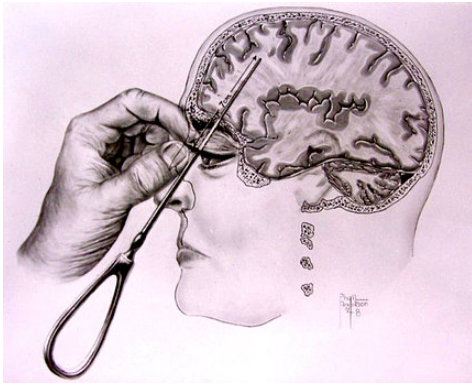
Figure 1

2 The rise of leucotomy

Leucotomy would later be adopted as a medical procedure used to treat severe mental illnesses; Walter Freeman in conjunction with the neurosurgeon James W. Watts brought the leucotomy to the United States under the name of the lobotomy in 1937. They would also then later adopt the transorbital lobotomy in 1946; this operation differed by the fact that the prefrontal cortex was instead accessed via the roof of the eye sockets [5]. Leucotomy would be promoted and popularised here in Britain by William Sargant from 1942 [9].

Leucotomy saw a rise in interest and use from the 1940's, and saw widespread adoption in most countries. The only country to oppose leucotomy at the time of its rise to popularity was soviet Russia, banning it in 1950; due to stalinist political ideas opposing the infiltration of western medicine into the current communist regime. The main supporter of leucotomy there, psychiatrist Aleksandr Shmar'ian, was silenced due to anti-semitism, in favour of the established ideas of Ivan Pavlov of physiological processes (ideas born in soviet Russia, favoured by the current regime), with which leucotomy was in stark contrast of [12].

At the time leucotomy was acknowledged to be a surgery of last resort, to be only employed in cases of severe mental illnesses such as schizophrenia or severe depression [9], that were untreatable at the time via other practices such as electroshock or insulin therapy.



(a) Diagram of a transorbital lobotomy, [6]

(b) Ice pick and hammer used for transorbital lobotomy, [Wikimedia Commons](#)

Figure 2

3 Medical and ethical concerns of the period

Views on leucotomy by practitioners at the time both supported and opposed leucotomy. In support of leucotomy, it would be argued that leucotomy could restore the functional ability of a patient, and enable them to be reintegrated back into society and a working environment.

Various ethical concerns and medical issues of its effectiveness would start to be raised, such as those voiced by Dr. Kurt Goldstein in 1950 [7]. It can be noted that leucotomy often left the patient in an emotionally and intellectually devoid or flattened state [7][5], and it was argued that the 'curing' of mental health disorders via this operation was obtained via what was effectively mental euthanasia. The procedure had a large amount of variability; this would either cause the operation to have little effect in 'curing' mental health disorders, or in the worst case the patient would be left extremely debilitated, requiring a long period of rehabilitation or even lifelong care, as was the case with Rosemary Kennedy. The procedure also had a high mortality rate, with deaths typically occurring due to brain haemorrhages caused by the operating surgeon accidentally cutting fine blood vessels in the brain.

Social rehabilitation was also an important factor in the success of a patient's reintegration into society [5]. At the time, as noted by Dr. Charles Burlingame [2], there was a lack of any kind of proper care and rehabilitation for recovering leucotomy patients in mental institutions - these patients would often be discharged and left in the care of close family; this was a contributing factor in the lack of success of leucotomy.

4 The fall of leucotomy

By the 1950's leucotomy would start to fall out of favour; this period saw the introduction of "psychopharmacology" by Jean Delay - the use of drugs to treat mental disorders. Jean Delay also discovered chlorpromazine in 1952 for the treatment of schizophrenia [1]. Iproniazid, also discovered in 1952 as a derivative of the tuberculosis drug Isoniazid, was used as the first antidepressant [8]. Clopazine was discovered in 1958 as another treatment for schizophrenia [4]. These medicines served to treat mental disorders that were previously thought to be untreatable except by leucotomy; these medications rendered the operation effectively useless.

Leucotomy would also fall out of public favour in the coming years; The book *One flew over the cuckoo's nest* by Ken Kesey, published in 1962, also presented a criticism of the then-current state of psychiatry at the time, not just of leucotomies also other therapies such as electroshock therapy. Dr. Watts would come part ways with Freeman, disagreeing with the operation and Freeman's lack of technique, later advocating to prevent his practice of the transorbital lobotomy in hospitals [3]. The last recorded lobotomy was performed in 1967 by Walter Freeman, which resulted in the death of the patient.

5 Why was leucotomy previously accepted despite ethical concerns?

The same ethical concerns about leucotomy held today were existent at the time of its introduction; however these were justified as it being a final treatment for the incurable mental disorders. This argument became less rigorous in due course as leucotomy saw more lax and widespread use, and then further abolished once it was no longer needed after psychopharmacuticals were able to replace the operation. The phasing out of leucotomy was largely helped by the development of these psychopharmacuticals; but this begs the question of for how much longer leucotomy would have been practised had psychopharmacuticals not been discovered? It seems that the attitudes of medical practitioners at the time regarding ethical concerns of its barbarism at the time were not widespread, or taken seriously enough to, by themselves, have been able to abolish the leucotomy.

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