

# Which Is More Important for a Surgeon: Brain or Hand?

## *Cerrahlar İçin Hangisi Daha Önemlidir: Beyin mi, Eller mi?*

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"Fifty percent of the moves in surgery are intended to cover a resting tremor."*

**G. Rainey Williams, M.D.**

The narrative stating "the best surgeon is one who does not have hands" makes ironic sense. Surgeons work with their hands. Indeed, the term surgery means "hand work", originating from Greek and Latin. There is no doubt that the brain controls manual activity; however, we would envisage that one can not perform successful surgery without anatomical and physiological competency of one or both hands.

On the other hand, Paul W. Brown's interesting earlier study points to a different viewpoint (2). Although things such as legal issues and occupational norms are different nowadays, the work still provides valuable lessons for today as regards a scientific basis. Brown surveyed 147 surgeons who had lost part of their hands and found out that the majority of these surgeons were very active in their jobs with good surgical results. Only 3 surgeons had left the practice due to decreased manual skill. The loss ranged from a fingertip to an entire hand, with 29 cases suffering from thumb amputation and 20 of these the dominant hand. Some reported even advantageous aspects of their loss such as becoming ambidextrous or a size-reduced hand that could work within a smaller space through a shorter incision. Most of the surgeons used instruments easily without the need for any adjustment. Some modifications were made in certain instruments for grasping and knot tying. Overall, none of them thought that their surgical skills had been affected by the loss. One illustrative case was a plastic surgeon who lost parts of five fingers to frostbite and quit playing the piano but continued to perform surgery without difficulty (Figure 1) (2).

Among the surveyed physicians, 7 were neurosurgeons and all were active in their profession. One neurosurgeon was Sir Sydney Sunderland, well known for his classification



**Figure 1:** Showing both hands of a plastic surgeon. He had lost parts of 5 fingers in total (based on reference 2).



**Figure 2:** Sir Sydney Sunderland's right hand missing two-thirds of the index finger (based on reference 2).

of peripheral nerve injuries, whom Brown personally met in a conference. Sunderland was missing two-thirds of his right index finger and explained confidently that he had not encountered any restriction in doing his work: "I can do anything with my hand" (Figure 2) (2). This anecdote reminds us of another famous neurosurgeon, Charles B. Wilson, who underwent Achilles tendon surgery. To everyone's surprise, only a few days later he came to the operating room in a wheelchair and performed brain surgery successfully without thinking of his burden (1). These examples show that power of will is fundamental when working in a laborious field like surgery.

Likewise, Brown concluded that the incentive determines the success in the case of hand-deficient surgeons and reasoning and positive mentality might well support this attitude. Notably, he also emphasized that the motivation of the individual is more important to hand function than the actual number of digits (2). We can politely translate these words into "the surgeon's brain is more important than his hands (3)".

#### **REFERENCES**

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