

# The main principles and basics of brain surgery.

Dusica Stamenkovic\*

Department of Medical, University of Defence, Belgrade, Serbia.

## Abstract

**Brain surgery is a complex and delicate procedure that requires a high level of skill and precision. The brain is the most important and intricate organ in the human body, controlling everything from basic bodily functions to complex cognitive processes. As such, any surgery involving the brain carries a significant risk of complications and potential failure. In this article, we will explore the reasons behind brain surgery failure and its devastating consequences.**

**Keywords:** Open surgery, Trauma surgery, Endoscopic sinus surgery.

## Introduction

Firstly, brain surgery failure can occur due to a variety of reasons, such as technical errors during the surgery, unexpected complications arising from the surgery, or pre-existing medical conditions that were not adequately accounted for before the surgery. Technical errors may include problems with positioning the patient, using the wrong surgical instruments, or damaging surrounding tissues while accessing the brain. Unexpected complications may include haemorrhages, infections, or brain swelling. Pre-existing medical conditions may include underlying health problems that make the surgery more challenging, such as high blood pressure, diabetes, or heart disease [1].

When brain surgery fails, the consequences can be devastating for the patient and their family. Depending on the type of surgery and the location of the brain affected, the patient may experience a range of physical and cognitive impairments. These may include difficulty with movement and coordination, speech and language problems, memory loss, and changes in personality and behavior. In some cases, the patient may be left in a vegetative state or require long-term care in a nursing home. The emotional toll of brain surgery failure can also be significant, both for the patient and their loved ones [2]. The patient may experience feelings of loss, grief, and depression as they come to terms with the impact of the surgery on their life. Family members may also experience feelings of guilt, anxiety, and helplessness, as they struggle to support their loved one through the recovery process. One particularly tragic example of brain surgery failure occurred in the case of a young girl named Jahi McMath. In 2013, Jahi underwent a routine tonsillectomy procedure to treat her sleep apnea. However, shortly after the surgery, she began experiencing complications and was declared brain dead by the hospital. Her family fought to keep her on life support, arguing that she was still alive and that the hospital had made a mistake in declaring her brain dead. After a prolonged legal

battle, Jahi was eventually transferred to a long-term care facility in New Jersey, where she remained on life support until her death in 2018. The case of Jahi McMath highlights the complex ethical and legal issues that can arise in cases of brain surgery failure. When a patient experiences unexpected complications or fails to recover as expected, it can be difficult for medical professionals and family members to determine the appropriate course of action. In some cases, the patient may be kept on life support in the hope of recovery, while in others, it may be decided to withdraw life support and allow the patient to pass away peacefully [3].

To mitigate the risk of brain surgery failure, it is important for patients to carefully consider the risks and benefits of the procedure before consenting to it. They should also disclose any pre-existing medical conditions to their doctor, and ensure that they are receiving care from a qualified and experienced surgeon. Medical professionals, in turn, must ensure that they are adequately prepared and trained for the surgery, and that they are taking all necessary precautions to minimize the risk of complications. Modifiable risk factors for SSI include procedural aspects, which include the possibility of instrument contamination, the duration of the operation, the number of people present and the traffic in the room and the ventilation system of the operating theatre [4].

The aim of this systematic review was to provide literature evidence on the relationship between features of surgical procedure sets and the frequency of SSI in patients undergoing surgical treatment, and to analyse how time frames of perioperative processes and operating theatre traffic vary in relation to the features of the procedure sets use, in order to optimise infection control in OT. The results of the systematic review brought to light observational studies that can be divided into two categories: evidence of purely clinical significance and evidence of mainly organisational, managerial and financial significance. These two systems are largely interconnected, and reciprocally influence each

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\*Correspondence to: Dusica Stamenkovic, Department of Medical, University of Defence, Belgrade, Serbia, E-mail: [Dusicatenkovic@gmail.com](mailto:Dusicatenkovic@gmail.com)

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other. The decision to use disposable devices and instruments has been accompanied by a lower incidence in surgical site infections and surgical revisions for remediation [5].

## Conclusion

Brain surgery failure is a devastating outcome that can have profound physical, cognitive, and emotional consequences for patients and their families. While it is impossible to completely eliminate the risk of complications and failure, there are steps that can be taken to minimize these risks and ensure the best possible outcomes for patients.

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