

# Biomedical Studies to Treat Brain Cancer

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## Introduction

Personalised nanomedicine is a rapidly developing discipline that has made major advancements in the ability to focus medicines to aggressive cancers with fewer adverse effects. The treatment of gliomas such as glioblastoma (or other brain tumours) with nanomedicine is hindered by the largely intact blood-brain barrier, which results in poor drug accumulation in tumour tissue (BBB). Despite this, the BBB is damaged after surgical intervention and gradually as the disease progresses. The combination of increased tumor-induced vascular permeability and decreased BBB integrity provides a strategy for improving treatment results [1].

## Description

Surgery may be the only option for a low-grade brain tumour, especially if the entire tumour can be removed. Radiation therapy and chemotherapy may be utilised if the tumour is still visible after surgery. Surgery is frequently the first step in the treatment of higher-grade cancers, followed by radiation therapy and chemotherapy. Your health care team will devise a specific treatment plan for you. It can be difficult to treat brain tumours successfully. The brain and spinal cord are generally protected from hazardous chemicals by the blood-brain barrier. Many kinds of chemotherapy, on the other hand, are kept out by this barrier. If the tumour is near a sensitive area of the brain or spinal cord, surgery may be challenging. Even if the surgeon is able to remove the entire tumour, pieces of it may remain [2,3].

Surgery is performed on a large number of persons who have a brain tumour. During the procedure, the surgeon will confirm the presence of a tumour before attempting to remove it completely. If the surgeon is unable to remove the tumour, a sample will be taken to determine its nature. The most common operation for removing a brain tumour is craniotomy. The surgeon begins by slicing into your scalp. To reveal your brain, they'll remove a section of your skull. The tumour will next be removed in its entirety or as much as

possible. The surgeon sews the scalp together after repositioning the fragment of skull. Depending on the location of the tumour, the surgeon cuts a small hole in the skull or enters through the nose or mouth [4,5].

## Conclusion

The tumour will be removed with little tools. One of these is equipped with a small camera that transmits images to a monitor close to the operating table. These photos are used by the surgeon to locate and remove the tumour. External radiation involves directing a high-energy beam of radiation at the tumour. To reach the tumour, the beam passes through the skin, the skull, healthy brain tissue, and other tissues. The treatments are normally delivered over a five-day period. It only takes a few minutes for each treatment. Internal or implant radiation involves inserting a tiny radioactive capsule into the tumour. The tumour is destroyed by the radiation from the capsule. The capsule's radioactivity drops somewhat each day, and its expiration date is meticulously determined.

## References

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