

**PROFILE & DRUG DEVELOPMENT**

**BRAIN CANCER**

**GLIOBLASTOMA MULTIFORME (GBM)**

[www.ISRreports.com](http://www.ISRreports.com)

**WHAT IS GBM?**

**GBM is the most common and most aggressive form of primary malignant brain tumor.**



**240,000 PEOPLE** are diagnosed with GBM globally each year. That's equivalent to the population of Durham, NC.

that's **2-3 CASES** per **100,000** adults

**SYMPTOMS**

- Seizures
- Nausea and vomiting
- Headaches
- Hemiparesis
- Memory, personality, or neurological deficits

GBM is slightly more common in

**MALES**



and slightly more common in

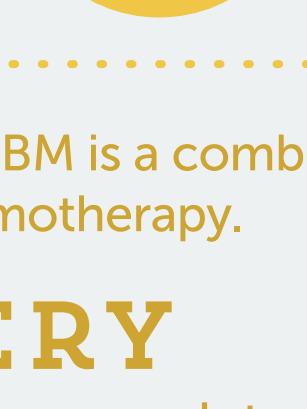
**CAUCASIANS**

(in US).

.....

**TREATMENT**

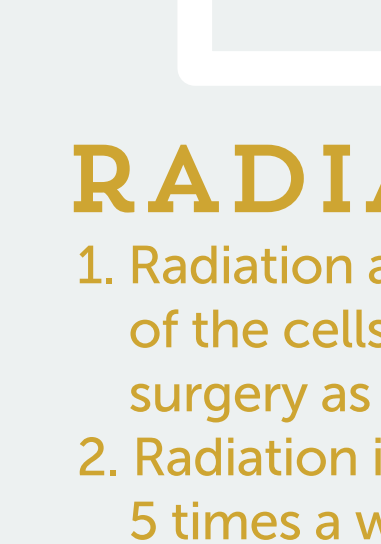
**No available treatment for GBM is curative and options are extremely limited.**



The most optimal treatment for GBM is a combination of surgery, radiotherapy, and chemotherapy.

**SURGERY**

**GOAL:** removes as much tumor tissue as possible. It is believed that surgery gives patients a better prognosis when they begin other treatment.



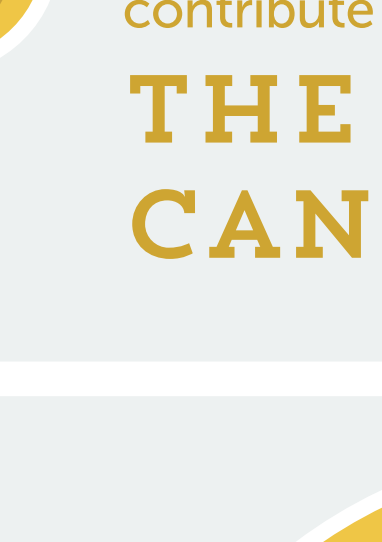
**RADIATION**

1. Radiation aims to kill as many of the cells left behind from surgery as possible .
2. Radiation is usually given 5 times a week for 6 weeks.
3. Radiation is combined with the oral chemotherapy, Temozolomide.



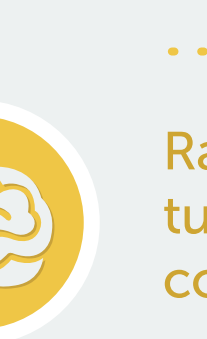
**+**  
Temozolomide increases survival time from

**12.1 MONTHS** to **14.6 MONTHS.**



**CHEMOTHERAPY**

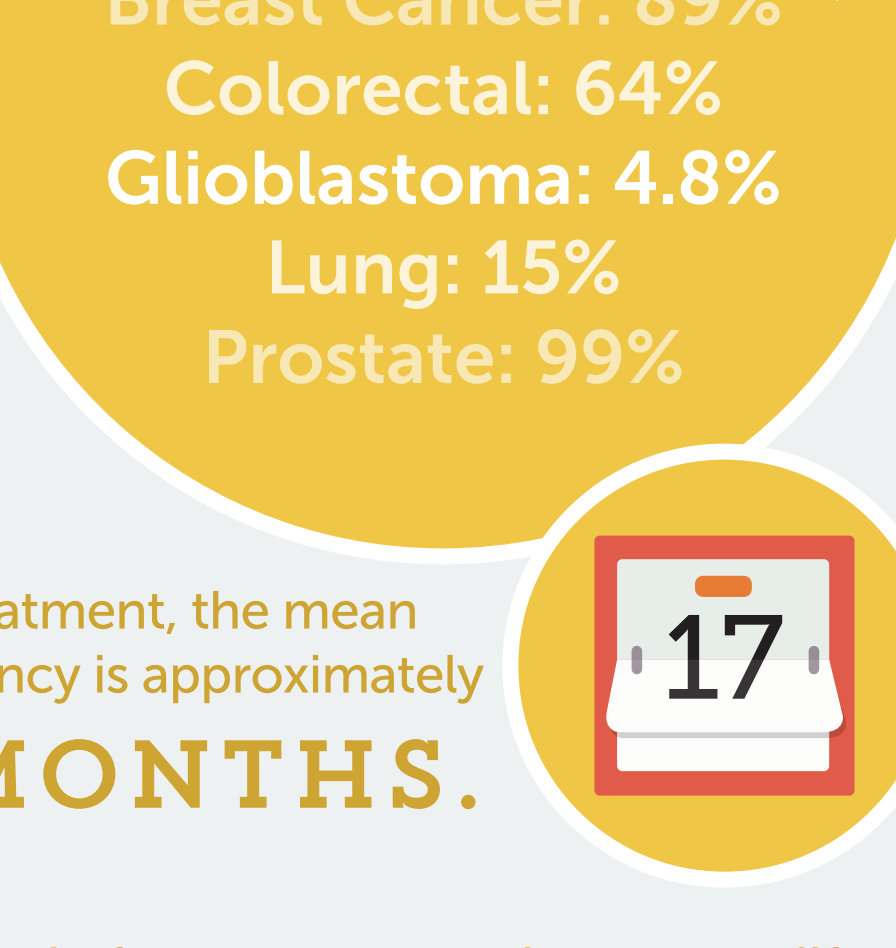
**GOAL:** Chemotherapy and radiation aim to put the remaining cancer cells into a nondividing, sleeping state.



25% of patients benefit from adjuvant chemotherapy.

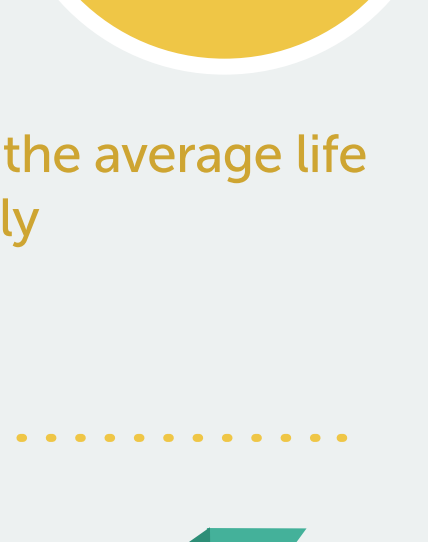
Rapid tumor growth, highly resistant tumors, and a lack of effective therapies contribute to making this one of

**THE DEADLIEST CANCER TYPES.**



Without treatment, the mean life expectancy is approximately

**4.5 MONTHS.**



With standard of care treatment the average life expectancy rises to approximately

**15 MONTHS.**

**THE FUTURE**

GBM is classified as an

**ORPHAN DISEASE**



This is defined as a disease that affects fewer than 200,000 people (in the U.S.).



Potential therapies can be eligible for **ORPHAN DRUG DESIGNATION**, which allows the developing company to receive tax breaks and market exclusivity upon approval of the therapy.

**50 POTENTIAL NEW THERAPIES** in active development, positive results in early stage trials.

**50**

- These new therapies include:**
- Immunotherapeutic Vaccines
  - Anti-Angiogenesis
  - Gene Therapy
  - Cell Signaling Pathway Inhibitors
  - Cytotoxics

**76**

**76 GBM CLINICAL TRIALS** were started in 2013

**58 PHARMA & BIOTECH COMPANIES** have sponsored GBM trials since 2010.

**58**

Sources: ISR Reports, brain.mgh.harvard.edu, cancer.org, http://visual.ly/brain-cancer-info-graphic, www.mdanderson.org, seer.cancer.gov, International Agency for Research on Cancer Scientific Publications Number 155, 2002, www.cbtrus.org, http://globocan.iarc.fr, neurosurgery.ucsd.edu/glioblastoma/, emedicine.medspace.com,