braintumour
foundation
OF CANADA

Brain Tumour 101

braintumour foundation OF CANADA

What is a brain tumour?

- A brain tumour is a mass of abnormal cells within or around the structure of the brain.

- A brain tumour can be benign or malignant, and can be primary or secondary.

braintumour foundation OF CANADA

Primary or Secondary?

Primary Tumours

- Originated from cells within the brain.
- Primary brain tumours stay within the brain or spinal cord.

Secondary Tumours (or Metastatic)

- Originated from cells from somewhere else in the body.
- Common for other cancers to move, i.e. breast, lung, melanoma, etc.

Growth: Benign or Malignant?

Benign Tumours

- WHO Grade 1 or 2
- Slow growing
- Well defined borders
- Does not invade surrounding tissue

Malignant Tumours

- WHO Grade 3 or 4
- Fast growing
- Poorly defined borders
- Can invade surrounding tissue and structures

(WHO: World Health Organization)

braintumour foundation OF CANADA

Common Symptoms

Headaches	Seizures	Visual changes
Personality changes	One-sided weakness	Hearing loss
Dizziness	Nausea and vomiting	One-sided paralysis

Diagnosing Brain Tumours

CT (or CAT) Scan

- A CT Scanner is often used to take pictures (X-rays) of the brain.
- Abnormalities such as a tumour will show up on a scan.

Diagnosing Brain Tumours

MRI Scan

- An MRI Scan uses a magnet and radio waves to take pictures of the brain.
- MRI scans show more detail than CT scans. However, a CT may be done first to determine any abnormalities. If one is present, an MRI provides further detail.

Types of Treatments

Three standard treatments exist for brain tumours:

- **Surgery**
- **Radiation therapy**
- **Chemotherapy**

- *However*, a **wait-and-see approach** is often used to monitor any changes in the tumour.

- Treatment plans are individualized to the patient, and the type and grade of tumour.

braintumour foundation OF CANADA

Surgery

- Often surgery is the first treatment offered ***if*** the tumour is in an operable area. If surgery is not an option, a biopsy may be ordered.
- The goal of surgery is to remove or de-bulk as much tumour as possible, and get an accurate diagnosis by the pathologist.

braintumour foundation OF CANADA

Radiation Therapy

- Radiation therapy involves administering high levels of radiation directly at a tumour.
- Standard radiation therapy lasts for 6 weeks, Monday to Friday for 30 treatments.

braintumour foundation OF CANADA

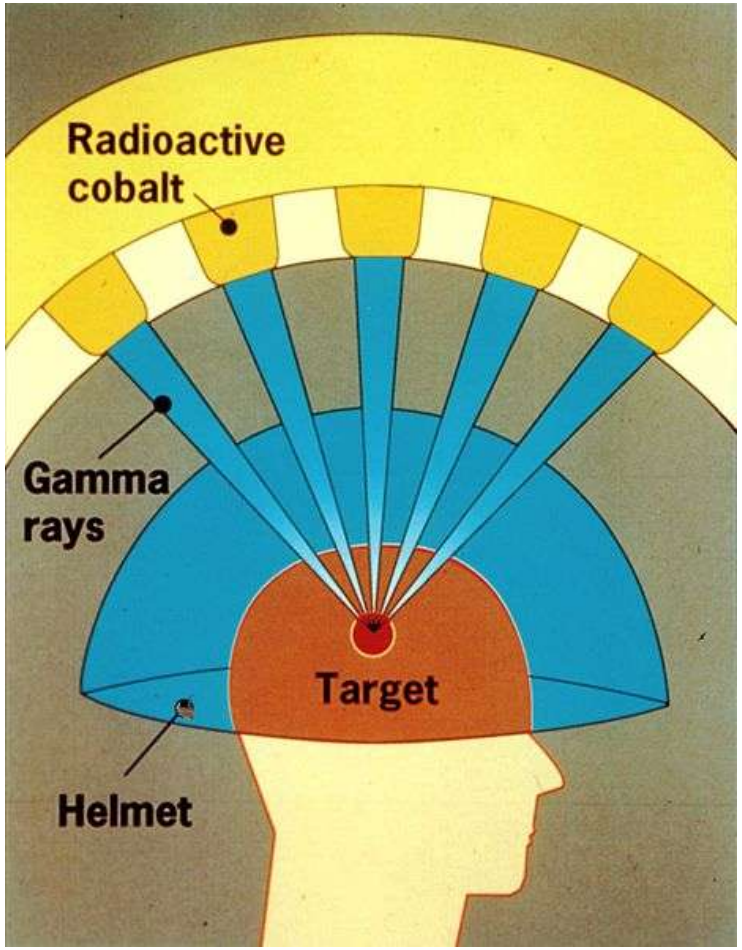
Radiation Therapy

Stereotactic Radiosurgery is another form of radiation that is given in one single treatment.

Gamma Knife is used to treat meningiomas, pituitary tumours, acoustic neuromas, and secondary tumours.

braintumour foundation OF CANADA

Gamma Knife



NRCGraphic of the Leksell Gamma Knife

Chemotherapy

- Chemotherapy is the use of medication to stop or slow the growth of tumour cells.
- Often given orally or intravenously.
- Temozolomide or Temodal is becoming a common chemo drug for brain tumour patients. But VERY expensive if not covered by insurance or provincial coverage. Often given concurrently with radiation therapy for high-grade gliomas.

braintumour foundation OF CANADA

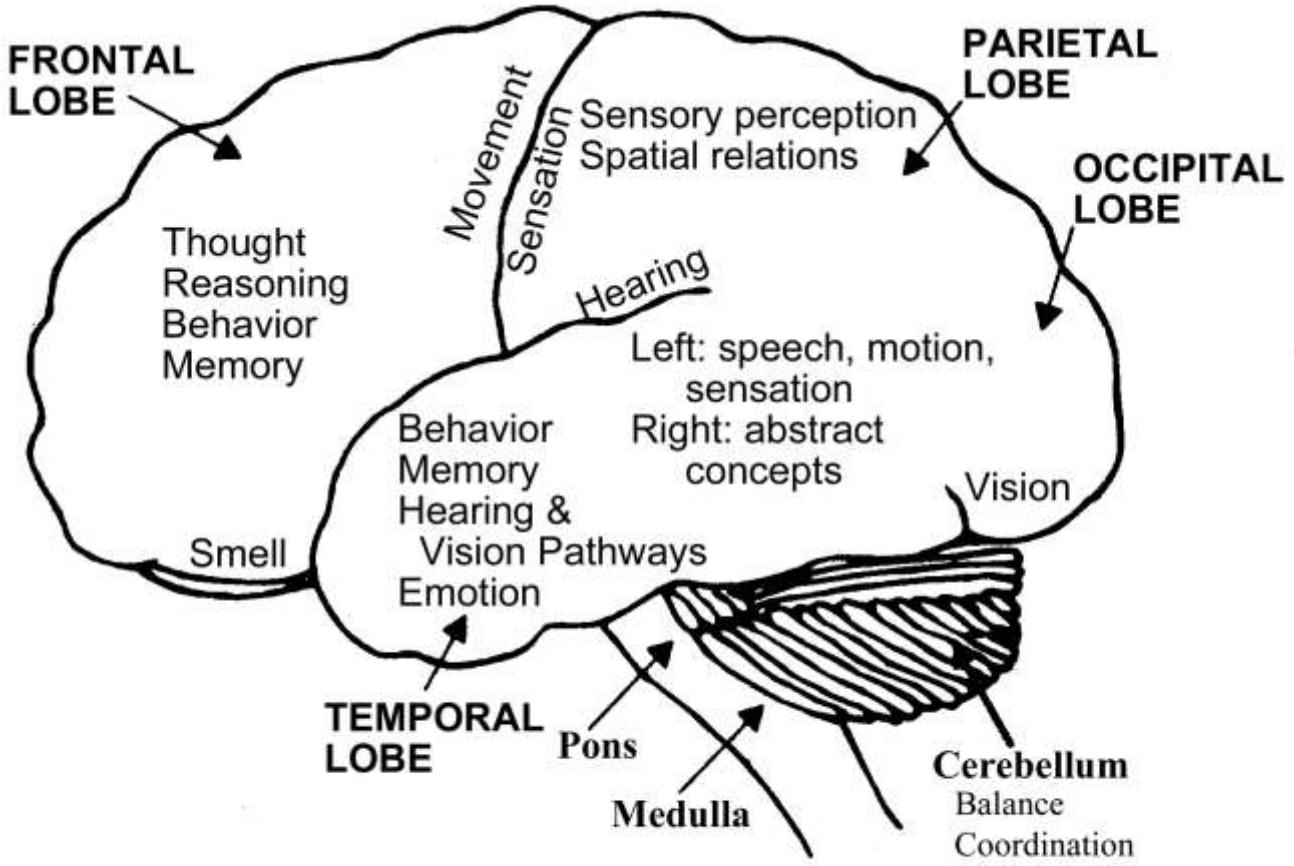
Common Tumour Types

Astrocytoma

- Grade 1: Pilocytic Astrocytoma [Pediatric]
- Grade 2: Astrocytoma
- Grade 3: Anaplastic Astrocytoma
- Grade 4: Glioblastoma Multiforme

braintumour foundation OF CANADA

Lobes of the Brain



*For right handed individuals