



The Biennial International Pediatric Oncology Congress In Memory of Prof. Vossough







Cancer is the second leading cause of mortality in the world, and considered as global life-threatening health. Cancer causes a heavy global economic cost estimated at more than trillion dollars per year. Brain tumors are the second most common cancers among children (after leukemia), which is considered as the leading cause of mortality in childhood cancer.

The types of common brain tumors in children are different from adults. Childhood brain tumors often behave in a different way than brain tumors in adults. Therefore, it is imperative that children with brain tumors be treated at a specialized pediatric brain tumor centers.

Common Pediatric Brain Tumors:

- Glioma (Low and high grade)
- Embryonal tumors like Medulloblastoma
- Ependymoma
- Craniopharyngioma
- Germ cell tumors

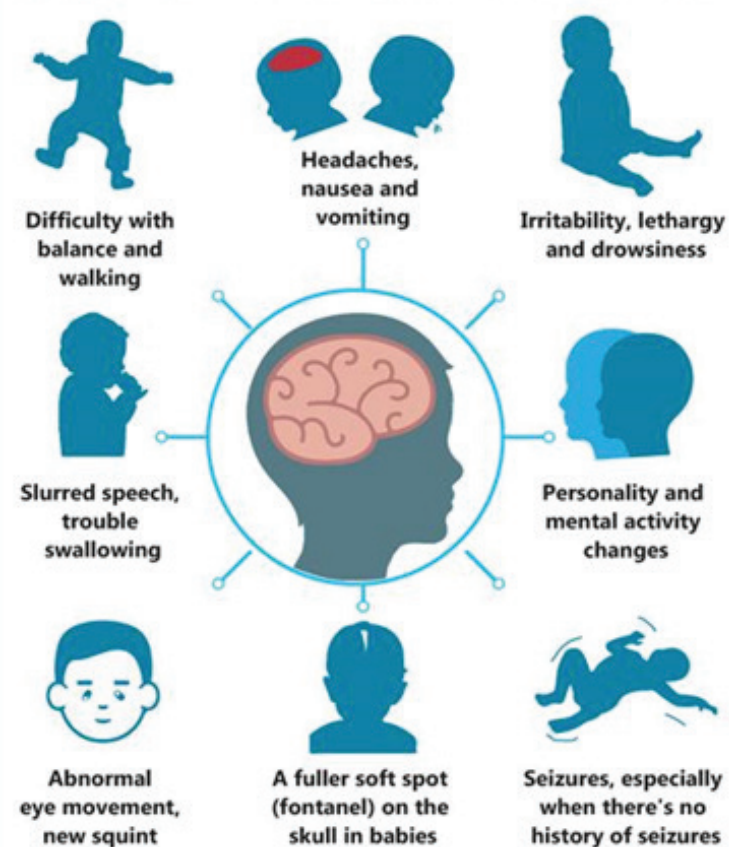


Symptoms:

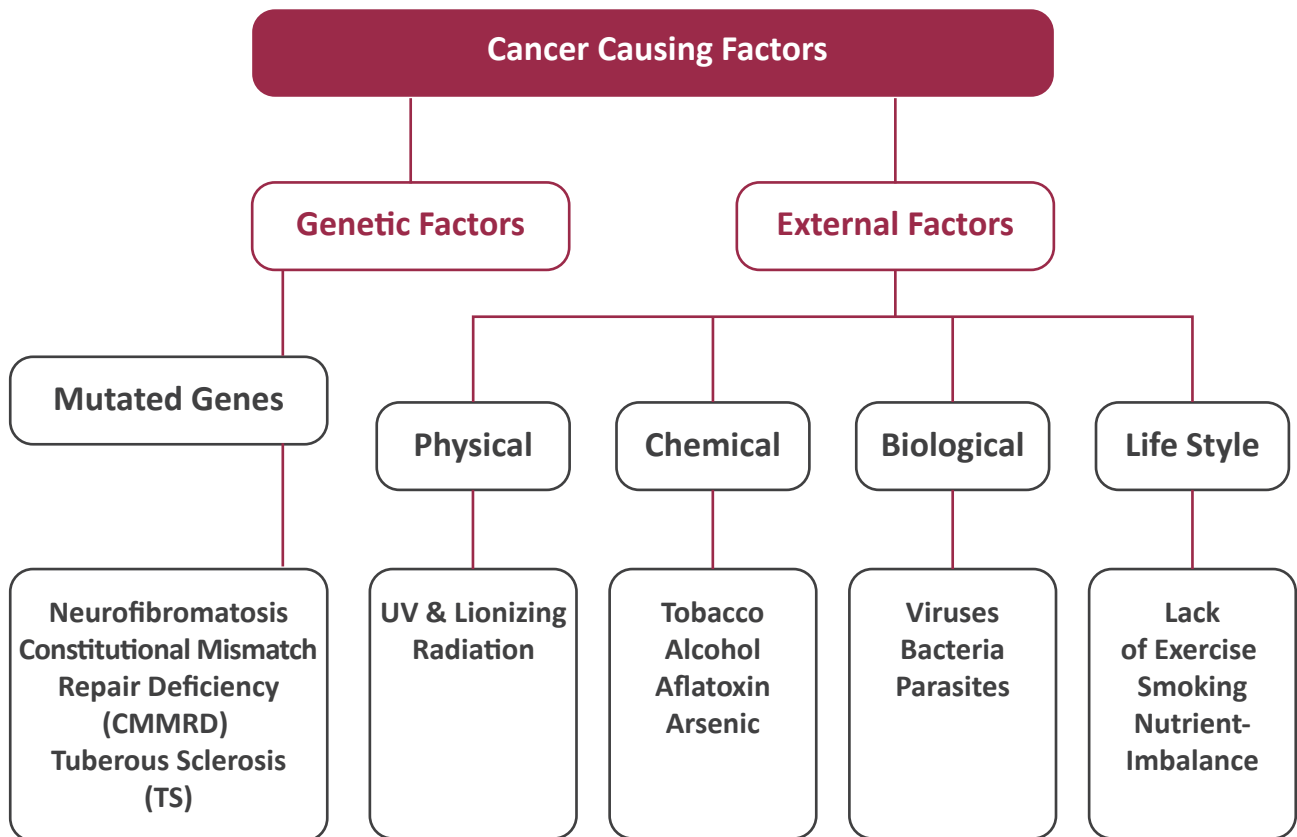
Pediatric brain tumor symptoms are depending on tumor location and size within the brain as well as how quickly it's growing

Common symptoms of brain tumors are: difficulties with balance and walking, muscle strength, speech, eyesight, ability to think, learn and remember as well as personality or behavior changes. Headaches, Nausea and vomiting are other common symptoms in pediatric brain tumors.

Symptoms of brain tumors common in children



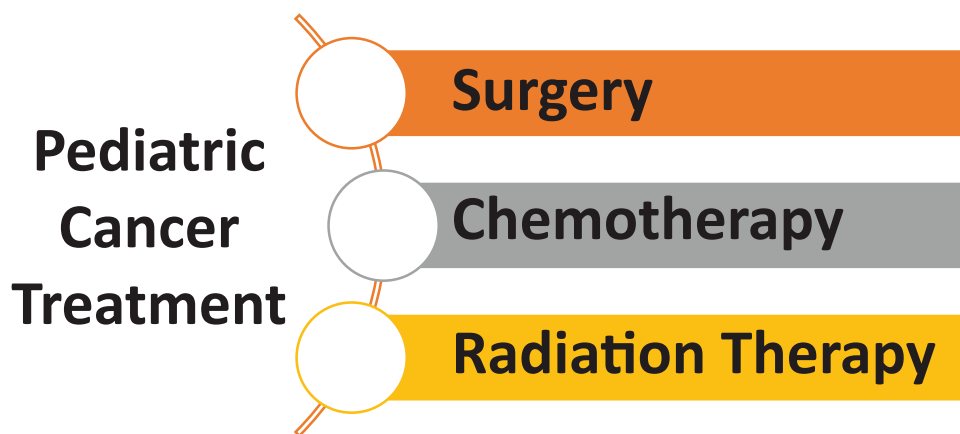
Causes:



Treatment:

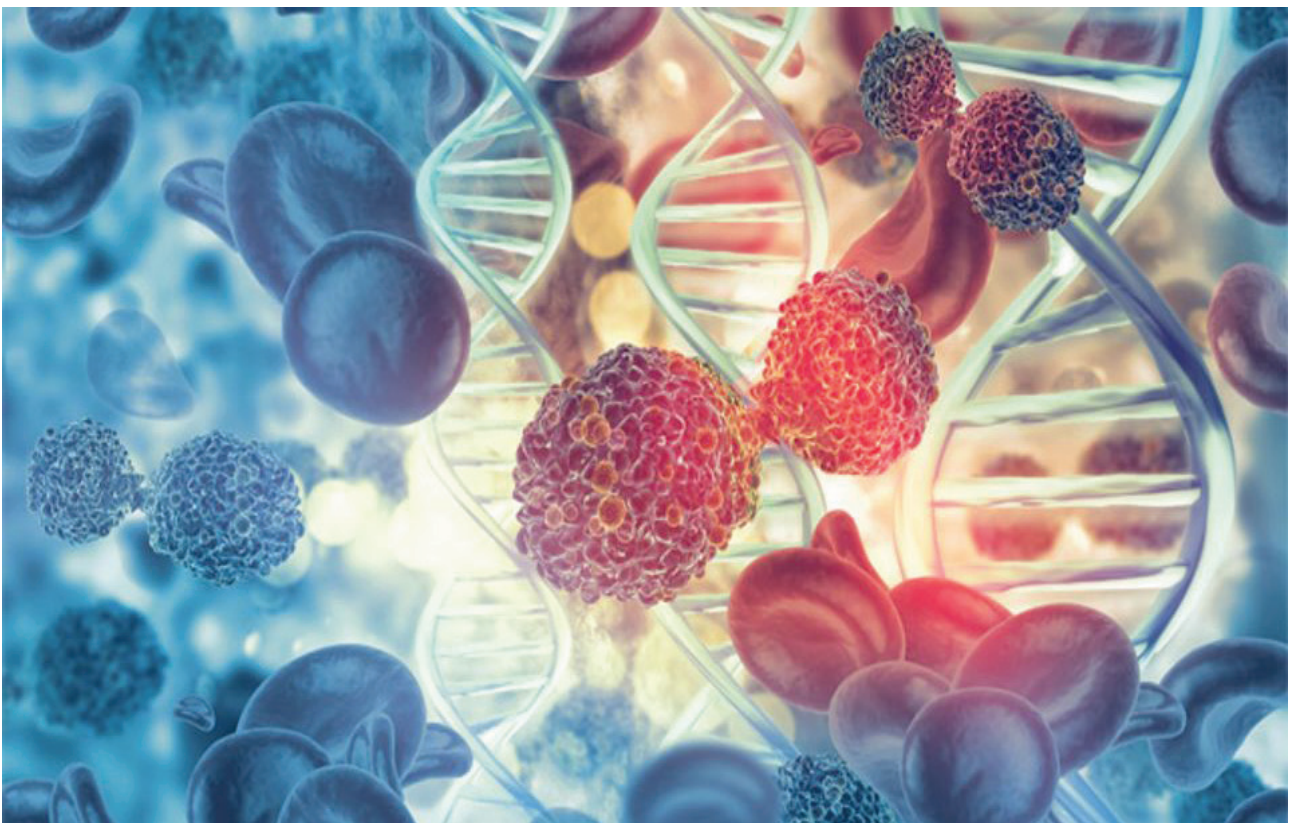
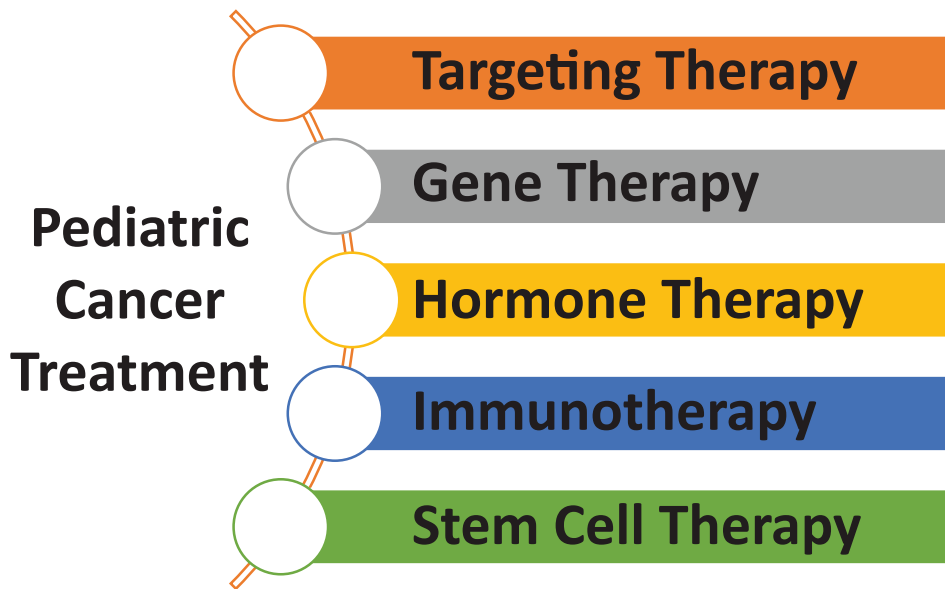
The global trends in pediatric oncology is moving towards new findings to achieve more efficient & safe strategies for cancer diagnosis, prognosis, and treatment. The universal treatments are categorized into two main strategies; the common and novel methods.

The Most Common Methods:





The Novel Methods:

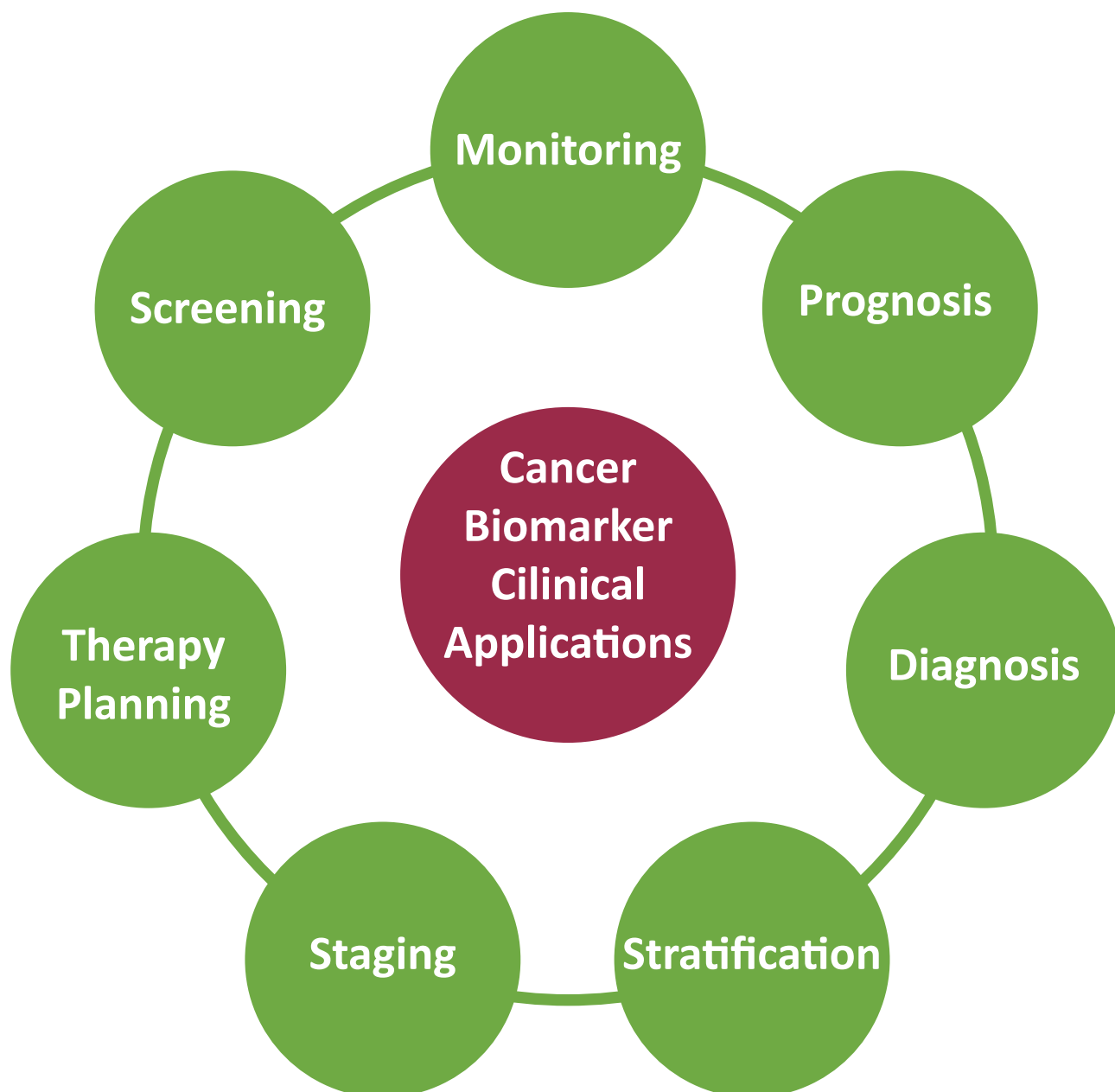


Comparison of Advantageous and Disadvantageous of New Cancer Therapies:

Treatment approach	Advantages	Disadvantages
Stem cell therapy	Safe and effective Can be combined with other strategies Decreases tumor volumes and extend survival	Treatment not durable Potential tumorigenesis
Targeted therapy	High specificity Reduced adverse reactions	Long-term side effects in question
Ablation therapy	Precise treatment Possibility to perform along with MRI imaging (magnetic hyperthermia)	Long-term side effects in question
Gene therapy	Expression of proapoptotic and chemosensitizing genes Expression of wild-type tumor suppressor genes Expression of genes able to solicit specific anti-tumor immune responses Targeted silencing of oncogenes and safety (RNAi)	Genome integration Limited efficacy in specific subsets of patients High chances to be neutralized by the immune system Off-target effects and inflammation (RNAi) Need for ad hoc delivery systems (RNAi) Setup of doses and suitable conditions for controlled release (RNAi)
Natural antioxidants	Easily available in large quantities The exploitation of their intrinsic properties	Long-term side effects in question



Biomarkers Trends in Pediatric Cancer Diagnostic & Treatment:



“MAHAK is a life-changing journey for children who are suffering from cancer”



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