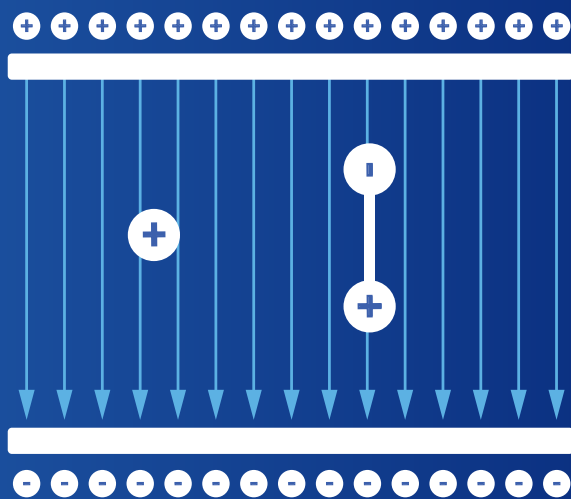


tumor treating fields at-a-glance

Tumor Treating Fields is a cancer therapy that uses electric fields tuned to specific frequencies to disrupt cell division, inhibiting tumor growth and potentially causing cancer cells to die.

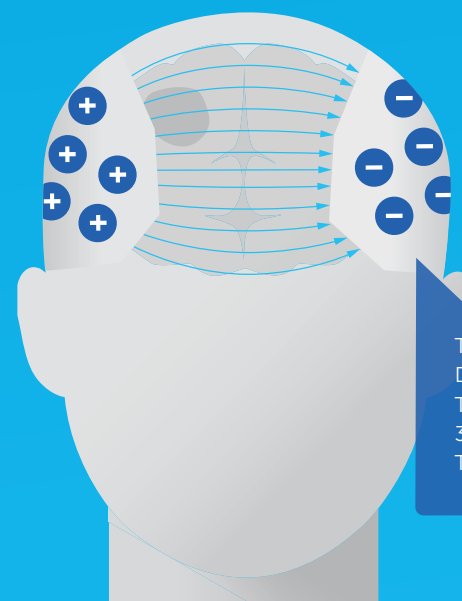
what is an electric field?

An electric field is a field of force. Electric fields surround all charged objects. An electric field exerts forces on other charged objects within it.



treating cancer with electric fields

Tumor Treating Fields uses alternating electric fields specifically tuned to target cancer cells. Once the electric fields enter the cancer cell, they attract and repel charged proteins during cancer cell division.



TUMOR TREATING FIELDS DESCRIBES ELECTRIC FIELDS THAT ALTERNATE 100,000 TO 300,000 TIMES PER SECOND TO TARGET CANCER CELLS

tumor treating fields utilizes the natural electrical properties of dividing cancer cells

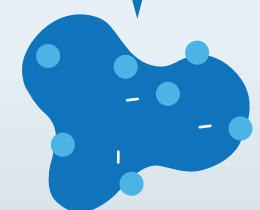
Cellular proteins such as tubulin are strongly affected by Tumor Treating Fields because they are highly polar, containing both positive and negative charges. During cell division, tubulin must position itself in a particular way in order for the cell to divide. Tumor Treating Fields exerts forces on tubulin, preventing it from moving to its correct locations and disrupting cancer cell division.



MISALIGNED TUBULINS INTERFERE WITH THE FORMATION OF MITOTIC SPINDLE



TUMOR TREATING FIELDS DISRUPTS CANCER CELL DIVISION



CANCER CELL DEATH

tumor treating fields causes minimal damage to healthy cells

Tumor Treating Fields does not stimulate or heat tissue and targets dividing cancer cells of a specific size. Tumor Treating Fields causes minimal damage to healthy cells. Mild to moderate skin irritation is the most common side effect reported.

Sources

1. Gutin PH, Wong ET. Noninvasive application of alternating electric fields in glioblastoma: a fourth cancer treatment modality. *Am Soc Clin Oncol Educ Book*. 2012;32:126-131. 2. Kirson ED, Dabaly V, Tovar F, et al. Alternating electric fields arrest cell proliferation in animal tumor models and human brain tumors. *Proc Natl Acad Sci USA*. 2007;104(24):10152-10157. 3. Giladi M, Schneiderman RS, Voloshin T, et al. Mitotic spindle disruption by alternating electric fields leads to improper chromosome segregation and mitotic catastrophe in cancer cells. *Sci Rep*. 2015;5:18046. 4. Stupp R, Taillibert S, Kanner A, et al. Effect of tumor-treating fields plus maintenance temozolomide vs maintenance temozolomide alone on survival in patients with glioblastoma: a randomized clinical trial. *JAMA*. 2017;318(23):2306-2316.