

Scientific studies examining the biological effects of microwave radiation used in cell phones, cell towers and Wi-Fi

- Significant **DNA strand breaks in brain cells**, loss of **spatial memory** and increase in **erythrocyte and leukocyte counts** in mice ([Chaturvedi et al.](#))
- **Reduced cognitive function**, elevated heat shock protein 70 (HSP70), **damaged DNA in the brain** of rats ([Deshmukh et al.](#))
- **Alteration of several reproductive parameters** in Wistar Albino adult rats ([Dasdaq et al.](#))
- Alterations in the **elemental composition of the teeth**, especially affecting **such oxidative stress-related elements as copper, zinc and iron**, suggesting that short-term exposure to Wi-Fi-induced electromagnetic radiation may cause **an imbalance in the oxidative stress condition in the teeth** of growing rats ([Ciftci et al.](#))
- Multiple pathologies in **Sprague Dawley rat kidney and bladder tissue**:
 - **Dilatation and vacuolization in the distal and proximal tubules**, **degeneration** in glomeruli and an increase in cells tending to apoptosis in kidney tissue
 - **Glomerular capillary degeneration** with capillary basement membranes under transmission electron microscopy
 - **Degeneration in the transitional epithelium** and **stromal irregularity** and an increase in cells tending to apoptosis in bladder tissue ([Turedi et al.](#))
- Significant **decrease in progressive sperm motility** and an **increase in sperm DNA fragmentation** in **human donor sperm samples** ([Avendano et al.](#))
- Eight of 10 **epidemiologic studies (human studies)** investigating possible association between cell tower proximity and neuro behavioral effects or cancer **reported increased prevalence of adverse neurobehavioral symptoms or cancer** in populations living at distances less than 500 meters from cell towers.
- **None of the studies reported exposure above accepted International guidelines**, suggesting that current guidelines may be inadequate in protecting the health of human populations. ([Khurana et al.](#))
- **Cell phones and brain tumors: a review including the long-term epidemiologic data.** The authors conclude that there is adequate epidemiologic evidence to suggest a link

between **prolonged cell phone usage** and the development of an ipsilateral **brain tumor**. ([Khurana et al.](#))