



What is Radiation?

Alpha radiation is a form of particle radiation, where the individual particles consist of two protons and two neutrons. They are unable to externally penetrate the skin but can be inhaled and settle in the tissue. Here they decay to substantially more dangerous **beta and gamma radiation**, which are cancer-causing and damaging to genes.

Upon impact with neutral atoms, all these radiation types have the power to release electrons, which are charged elementary particles, thereby transforming the atoms into ions. These ions develop within the human body in the same way as in water or the air. Therefore, the generic term "ionizing radiation" is used as a designator. The ionization of gases, e.g. air, is also used to measure radiation.

In former times, humans were only exposed to natural environmental radioactivity. It originated from three sources - cosmic, mainly from the sun but also from other planets; terrestrial, atomic decay products from the interior of the earth; and radioactive particles - which are part of aliments - absorbed from the food.

Today, technically produced sources also exist, namely from x-ray diagnostics, therapeutic usage, nuclear installations, nuclear tests, etc.

Four common Misconceptions

	False	True
1	Legal limit values are exceeded near high voltage transmission lines	The legal limit values are set so high that they cannot be exceeded even in close proximity to high voltage transmission lines and transformers.
2	As long as the threshold values are not exceeded, there are no health dangers	One could believe this as it is stated in the 26th federal emission control regulation. Current scientific research proves that biological effects occur at very weak electrical fields that are far below the threshold values.
3	In a "normal" household there is no electrosmog that is comparable to the current field intensity of high voltage transmission lines, for example	For certain electrical devices the measurable values are a lot higher than those for an electrical power line, e.g. for razors or heating blankets.
4	Mobile phones are harmless to health as threshold values are also adhered to	Scientific investigations show that despite adhering to threshold values a number of biological disturbances occur. Furthermore, peak values of the transmission power are not considered as only the average values are calculated.

Recommended Distance from High Voltage Transmission Lines

Conductor Type	Recommended Distance
20 kV	15 - 80 meters
110 kV	20 - 95 meters
220 kV	30 -120 meters
380 (420) kV	40 -160 meters

Mobile Phone Transmitters are generally prohibited

- In solely residential areas and other areas that are not approved for commercial use. Areas for charitable use, public sports grounds, hospitals
- On churches
- On buildings that according to building usage legislation are not approved for commercial use. Mobile phone transmitters are commercial usage.

In these cases there are good chances of proceeding legally against a mobile phone provider.