



# Health effects from exposure to electromagnetic radiation (EMR)



## What is electromagnetic radiation (EMR)

Electromagnetic radiation consists of waves of electric and magnetic energy moving together through space at the speed of light. Often the term '**electromagnetic field**' or **EMF** is used to indicate the presence of electromagnetic radiation (EMR).



Electromagnetic radiation is present in all electrical appliances, but the strongest radiation comes from mobile phone, radar and microwave oven.



- Many studies have demonstrated the interaction of EMR with immune system. The scientist had reported that any impairment of the immune response by magnetic field exposure could reduce the body's protection against the development and progression of cancer.



## Microwave oven

- A microwave oven may be fast and convenient but is it really safe ?
- Microwave oven emit two type of radiation :
  - High frequency radio waves.
  - Magnetic field.



- Microwave oven caused decreases in the nutritional value of the food ,most significantly in the bio-availability of B complex vitamin ,vitamin C, vitamin E and essential minerals that prevent abnormal accumulation of fat ,furthermore the microwaved food may be cause stomach and intestinal cancer



## Mobile phone

- The rapid expansion of mobile has lead to widespread concern for their safety. Scientists have been researching the biological effects of EMR on animal and human.



- The exposure to electromagnetic radiation (EMR) from mobile can cause detrimental effect on cell function ,chromosomal aberration and tissue injuries.



- Radiation can cause the heating of tissues that lead to an increase in the body temperature .this is known as the thermal effect ,although the body has its effective ways of regulating its temperature nevertheless, if the (EMR) exposure are too high ,the body may no longer be able to cope





- Many experimental studies demonstrate the histopathological effects of direct exposure to the EMR from mobile phones in adult albino mice these effect including hepatic, renal and splenic tissue damage and the degree of damage increased with the time of exposure to EMR.



## Effects of microwaves on the tissues of experimental animals



## Recommendations

- use your phone as little as possible, and only when you have no alternative - send a text or use a landline instead.
- keep your calls short !
- try to avoid using your phone if the signal strength is low .
- use a mobile phone connected to a remote antenna to increase the distance between your body and the source of the RF radiation, since the exposure level drops off dramatically with distance.



# Thanks for your attention!