

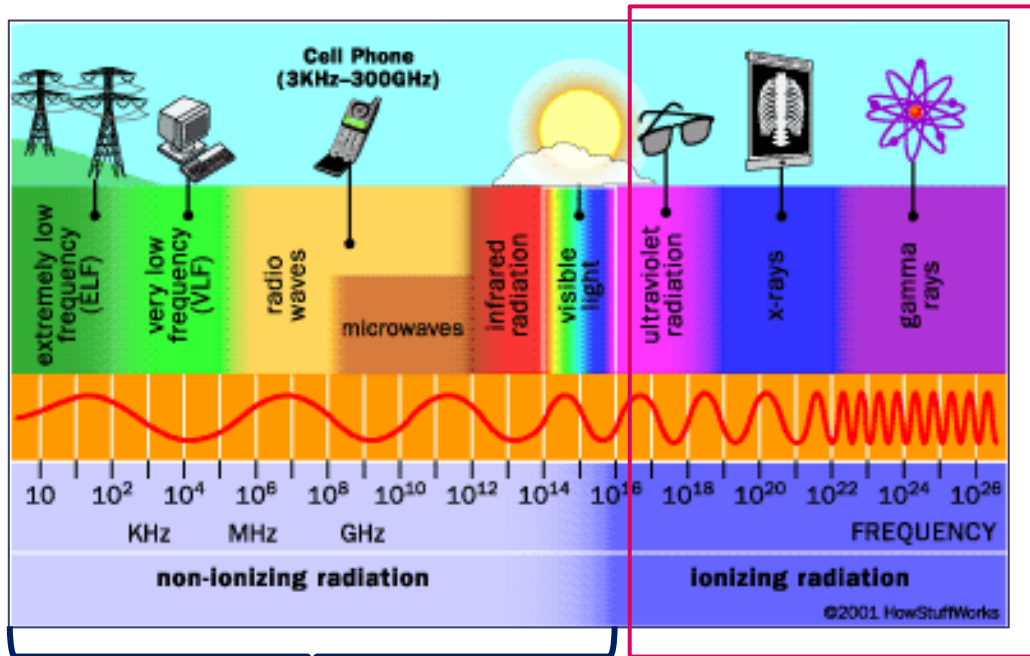
INFLUENCE OF MICROWAVE RADIATION ON OUR HEALTH

Coulsdon Sixth-Form College



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SIXTH FORM COLLEGE

Types of radiation

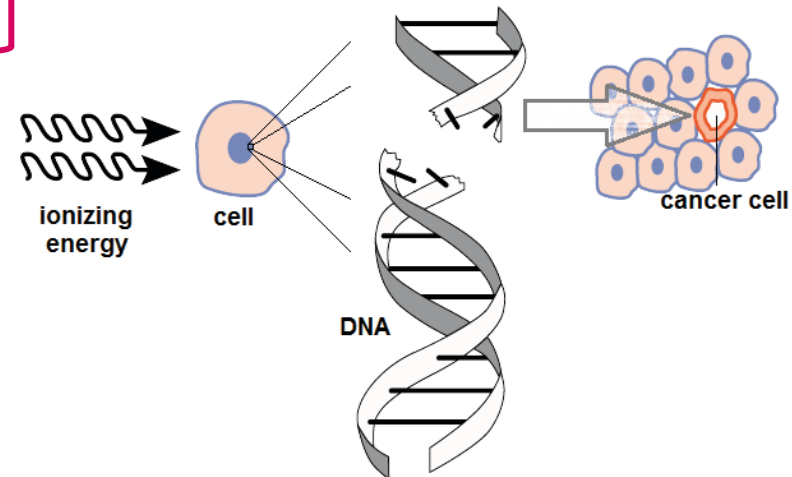


Non-ionising

Radiation with energy insufficient to cause ionisation and therefore less harmful than ionising radiation.

Ionising

Harmful radiation with enough energy to ionise atoms and damage DNA.



What is our hypothesis?

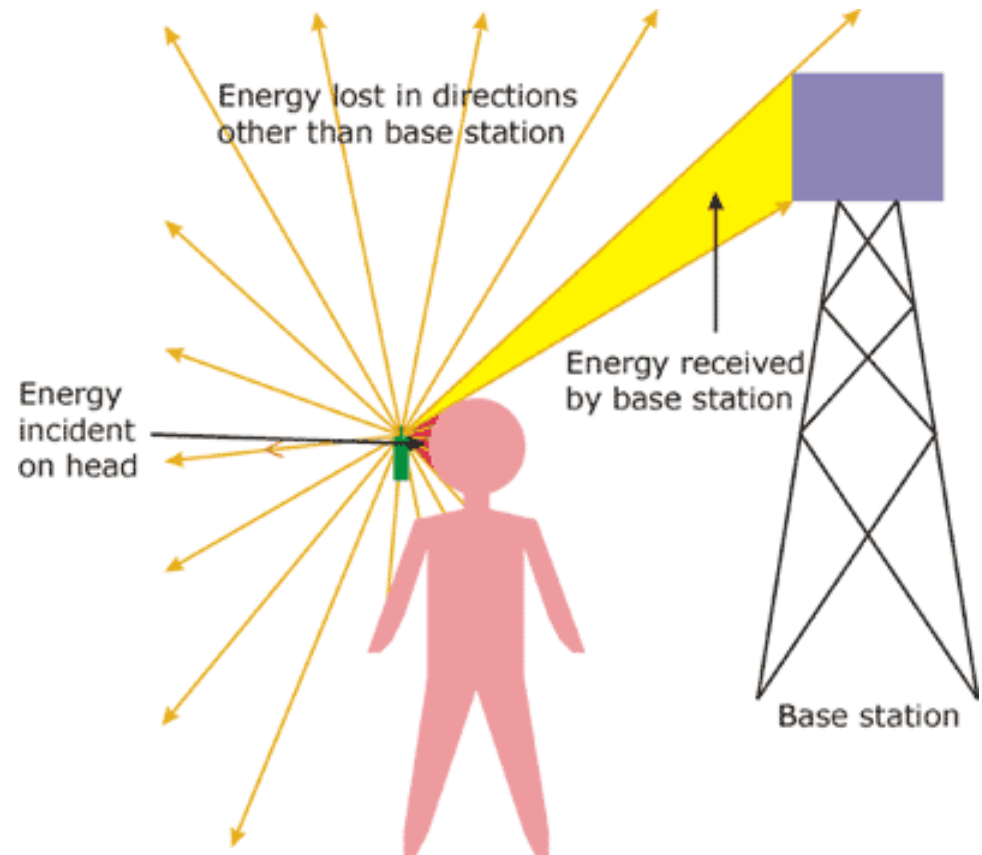
Microwaves released from our mobile phones are *non-ionising* radiation. Therefore, we believe that mobile phone use *will not* cause cancer.



How did we start our investigation?

Literature Review

- Interphone study
- Federal Communications Commission
- Europa Public Health
- National Cancer Institute
- International Agency for Research on Cancer (IARC)



What does the literature say?

Interphone study

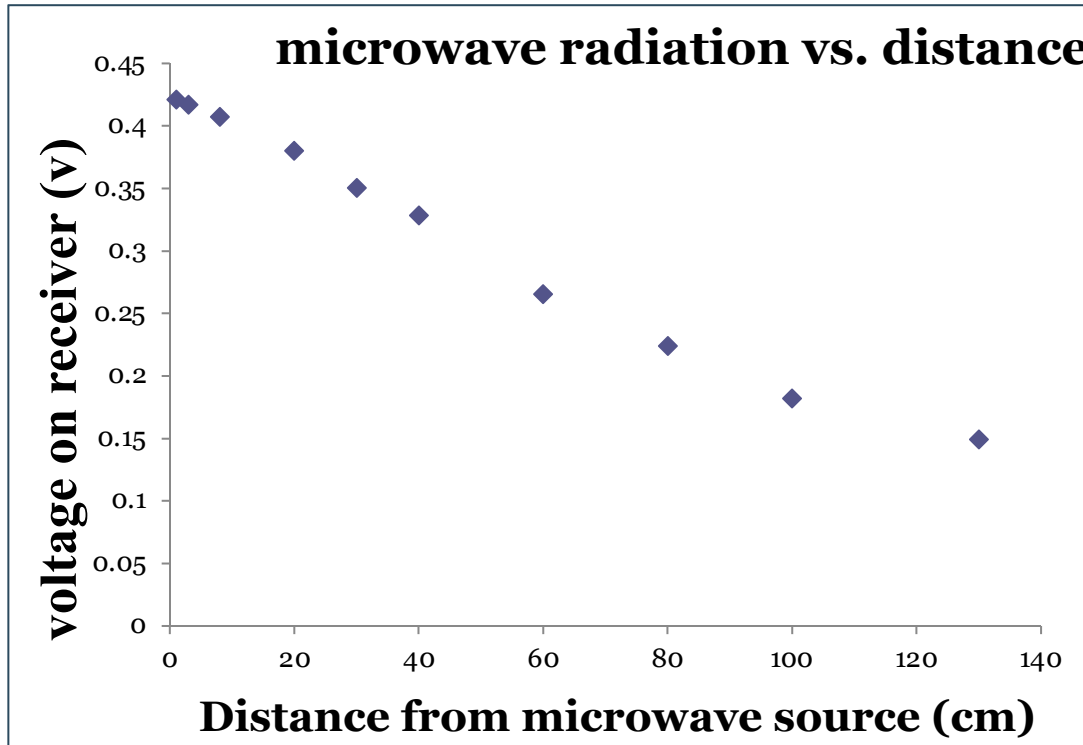
| Type of tumour | | Evidence from 10 year mobile phone use |
|------------------------------|---|--|
| Glioma | Glial cells protect nerve cells | increased risk |
| Meningiomas | Meninges is protective layer around the brain and spinal cord | None |
| Acoustic neurinomas | Benign intracranial tumour | Increased risk |
| Parotid gland tumours | Salivary glands at side of mouth | none |

Led the World Health Organization/ IARC to classify microwave radiation as “possible carcinogenic”.



Can we reduce our risk?

Data shows a reduction of microwave radiation with increasing distance from source.



The further away from a microwave source, the less risk of exposure.



Are some phones safer than others?

| student | SAR of mobile phone (W/kg) |
|---------|----------------------------|
| A | 1.25 |
| B | 0.41 |
| C | 1.22 |
| D | 0.96 |
| E | 1.6 |
| F | 0.96 |
| G | 0.43 |
| H | 0.3 |
| I | 1.22 |
| J | 0.63 |

Specific Absorption Rate (SAR)

The rate at which energy is absorbed by the body when exposed to microwaves.

In the EU, the maximum SAR must be less than 2 W/kg averaged over 10 g of tissue.

Check your SAR data at:

<http://transition.fcc.gov/oet/ea/fccid/>

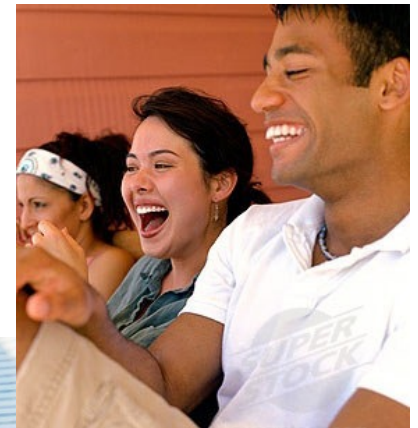
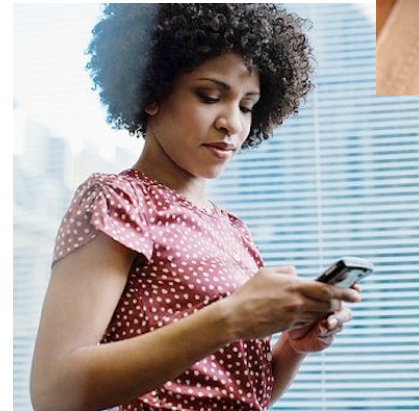


Conclusion

Although microwave radiation from mobile phones is non-ionizing, heating effects may increase risk of cancer.

Reduce risk:

- Limit time spent on mobile phone
- “Text”
- Use speaker phone
- Use phone with lower SAR



THANK YOU