

# Mobile phones and base stations



## So what is the best advice when using a mobile phone?

There is no immediate need for concern when using mobile phones or having a base station in your area. This is because, despite much research, there is no convincing evidence that either will cause harm. However, we have only been using mobile phones widely for the last decade or so and we need more research to look at the situation, particularly in the long term.

The body and nervous system are still developing into the teenage years. Therefore, as a precaution, the UK Chief Medical Officers advise that children and young people under 16 should be encouraged to use mobile phones for essential purposes only, and to keep calls short. If you are concerned, you can take steps to reduce your exposure such as using hands free kits or texting.

To see the evidence available so far, visit the websites given at the back of this leaflet.



## Where can I find more information?

The Department of Health website [www.dh.gov.uk/en/Publichealth/Radiation](http://www.dh.gov.uk/en/Publichealth/Radiation) has a list of places to find a whole range of information about:

- scientific research
- international guidelines
- radio wave measurement standards
- European regulations
- planning for base stations
- exposures from base stations
- the law on mobile phones and driving
- many other issues associated with mobile phone use.

## Further information

**World Health Organization** – [www.who.int/mediacentre/factsheets/fs193/en/index.html](http://www.who.int/mediacentre/factsheets/fs193/en/index.html)

**Health Protection Agency** – [www.hpa.org.uk](http://www.hpa.org.uk)  
Type 'mobile telephony and health' into the search bar

**NHS Choices** – [www.nhs.uk/conditions/mobile-phone-safety/pages/introduction.aspx](http://www.nhs.uk/conditions/mobile-phone-safety/pages/introduction.aspx)

**Directgov** – [www.direct.gov.uk](http://www.direct.gov.uk)  
Type 'mobile phones' into the search bar

**Ofcom Sitefinder website about base station emissions** – [www.sitefinder.ofcom.org.uk](http://www.sitefinder.ofcom.org.uk)





Around nine out of ten households in the UK have access to a mobile phone and they are now part of our way of life. This leaflet briefly outlines how mobile phones and networks work, provides some answers to the questions you might have about them and offers guidance on where to go for further information.

### How do mobile phones work?

When you make a call on a mobile phone, the phone transmits radio waves to the antenna of a nearby base station. The base station then transmits the call using the mobile telecommunications network to the phone of the person you are calling.

In towns or cities, where there are many phone users, more base stations are needed than in the countryside. The antennas of base stations may be mounted on masts, buildings or other structures.

A useful animation of how mobile phone networks operate can be found here: [www.mmfa.org/public/start.html](http://www.mmfa.org/public/start.html)

### So how safe are base stations and mobile phones?

Radio waves from base stations in this country comply with international health and safety guidelines. The levels of radio waves emitted from base stations in places where the public have access are generally found to be hundreds or thousands of times below the health and safety guideline limits. And, although the levels of radio waves from mobile phones are higher than from base stations, all mobile phones comply with international and UK health and safety guidelines.

### What does the science say about safety?

Research focusing on mobile telephony over the last ten years has shown no convincing evidence that the radio signals from mobile phones and base stations cause adverse health effects (refer to World Health Organization (WHO) website).

In the UK, the Health Protection Agency (HPA) closely monitors all mobile phone and health research. Apart from an accident risk when using a phone while driving, it states, '...there is no clear evidence of adverse health effects from the use of mobile phones or from phone masts.' However, as people have only been using mobile phones for relatively few years, the HPA advises that more research be carried out, especially to investigate whether there might be longer term effects.



### Is it possible to get too close to base stations and their antennas?

Radio waves get weaker as you get further away from antennas. Many different structures are used to host base stations and measures are always put in place to ensure a safe distance between the public and the antennas.

### Do radio waves cause cancer?

The UK Mobile Telecommunications and Health Research programme reported in 2007 that no association was found between mobile phone use of less than ten years and cancers of the brain and nervous system. However, as the situation for long-term exposures is less clear, the HPA continues to monitor the scientific evidence.

### What about mobile phones heating up the brain?

Any increase in brain temperature that may occur from using a mobile phone close to the head is very small, well within the normal body heating from everyday activities such as exercise and is not considered by the WHO to be harmful to health.