

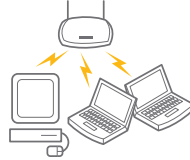
WiFi Explained

Explained Series – Wireless Networks and Health

What is WiFi?

WiFi, short for Wireless Fidelity, is the term used to describe high speed wireless connection over short distances between mobile computing devices such as laptops and the internet. WiFi is a type of wireless network.

It is also increasingly used for communication between consumer electronic devices such as televisions, DVD players, digital cameras and mobile phones.



What do the experts say about WiFi and health, and what research has been done?

Extensive research has been conducted into possible health effects of radio frequency technology. WiFi signals are in the radio frequency range where experts conclude there are no adverse health effects when operating below the safety guideline limits.

WiFi signals (hotspots and home WiFi) use a mere 100 milliwatts of power, less than half the power of a mobile phone. WiFi connections are also “silent” until data is transmitted, so radio signals are only created during actual transfers of data. Even heavy users accessing hundreds of megabytes of data a day would only end up transmitting for a short period (less than 15 minutes).

How does it work?

WiFi networks use very low powered radio technologies to transmit and receive information in a very similar way to home cordless phones.

A WiFi network typically contains one or more WiFi devices, each of which sends information on radio waves in the form of low powered short bursts or “packets”. A WiFi network can be used to connect computers to the internet, to each other, or to wired networks. A common example is a laptop connected to the internet using a WiFi modem at home.

A WiFi device (eg laptop) only transmits a signal when data is being sent.

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Using WiFi in offices and schools

WiFi allows greater freedom for working on computers and other devices such as PDAs in schools and offices. People in offices and schools do not have to sit at their desk in order to work but can move around and choose an environment that suits them.

WiFi networks provide an efficient and portable way of connecting computing and other electronic devices. Networks can be installed in offices and schools without the need for expensive and disruptive installation of cables, providing classroom and teaching flexibility.

WiFi devices are very low powered and produce very low emissions which is reassuring for staff and students concerned about safety.

Is it safe to use a WiFi enabled laptop on my lap?

It is rare that new laptops are sold these days without built in WiFi. Manufacturers do not recommend that laptops are used directly on your lap for extended periods due to operating posture and heating from the device.

Laptops however, must pass a stringent safety test which includes a radio frequency exposure assessment.

Where am I exposed to WiFi signals? What is a WiFi hotspot?

“Hotspots” are the name given to a WiFi access point connected to the internet. It is common to find hotspots in hotels, airports, cafes, offices, schools and universities so you can connect to the internet when away from the office or home. You are unlikely to be far from a WiFi signal. Hotspots use extremely low power, and only transmit when data is being sent, except for a small beacon signal to identify the hotspot to devices.

WiFi devices and applications

- laptop internet access
- home office
- hospitals
- medical device monitoring
- mobile phones
- electronic games
- printer connection
- CCTV connection
- school, universities, offices
- internet cafes
- airports and hotels
- libraries



Current WHO advice

<http://www.who.int/peh-emf/en/>

The World Health Organisation advises “Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects.”