

MOBILE MINUTE



AT A GLANCE

- To operate in Australia the mobile telecommunications industry is required to comply with Federal Government safety standards, which are recognised by national and international health agencies, including the World Health Organization (WHO) and the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

- Radio frequency energy has been studied in detail over the past 50 years. The assessment of the WHO is that there is no established scientific evidence that mobile telecommunications cause health effects.
- Despite the findings of the WHO, if people are still concerned there are some simple steps they can take to reduce their exposure by increasing the distance between the mobile phone and the user. ARPANSA has advice for consumers on what they can do to reduce their exposure.

Introduction

During the 30-year evolution of mobile telecommunications concerns have been expressed about possible health and safety impacts from mobile phone use and the proximity to mobile network infrastructure, such as base stations.

This Mobile Minute will cover key aspects of mobile telecommunications from a health and safety perspective and draws on expert independent research to provide accurate science-based information to assist people make informed choices about their use of mobile telecommunications and the placement of mobile infrastructure in the community.

The industry respects the rights of individuals to form their own views based on available information.

Does using a mobile phone cause health effects?

The mobile phone industry relies on independent expert advice from international and national health agencies on mobile phone safety.

Radio frequency energy has been studied in great detail over the past 50 years resulting in a large body of scientific literature in this field – covering laboratory, clinical and epidemiological (population) research.

Considering all of the science, the assessment of national and international health authorities, including the World Health Organization (WHO), is that there is no established scientific evidence that the use of mobile phones causes any health effects.

The World Health Organization (WHO) in its latest factsheet released in October 2014 says:

“A large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phones.”

Standards and regulation

All mobile devices and base stations are designed, built and tested to comply with science-based safety standards, which are recognised by national and international health agencies, including the World Health Organization (WHO) and the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

All mobile phones marketed in Australia must satisfy the regulatory requirements of the Australian Communications and Media Authority (ACMA). The ACMA regulations require wireless devices, such as mobile phones, to comply with the exposure limits in the ARPANSA Radio Frequency Standard.¹

ACMA recently audited 949 base stations from all mobile operators and found they complied with electromagnetic energy (EME) safety standards.

“Based on current research there are no established health effects that can be attributed to the low RF EME exposure from mobile phone base station antennas.”

ARPANSA Fact Sheet, Mobile Phones Base Stations and Health, March 2015

The ACMA says: “EME exposure to the public from base stations is typically hundreds of times below the limits set by the Australian Radiation Protection and Nuclear Safety Agency.”²

The public can see predicted maximum levels of exposure from their local mobile base station and how base stations comply with safety standards at www.rfnsa.com.au

Are safety standards adequate to protect the whole community from radiation?

The ARPANSA safety standard is designed to protect people of all ages and health status against all known adverse health effects from exposure to electromagnetic energy (EME) from mobiles, base stations and other wireless devices.³

ARPANSA's Australian safety standard limits exposure to approximately 50 times or 5000 per cent lower than the lowest level that radiofrequency emissions have been shown to cause any kind of health effect.⁴

Mobiles and children

A number of independent reviews of all available scientific evidence by international health authorities and governments have carefully considered children's use of mobiles and possible health effects and found no evidence of any additional risk to children from mobile telecommunication technologies.

ARPANSA says concerns have been expressed about children's use of mobiles.

"At present, there is insufficient evidence to substantiate the hypothesis that children may be more vulnerable to RF EME emissions from mobile phones than adults.

"It is recognised that parents provide mobile phones for their children for different reasons, including their child's personal security as well as their child being constantly contactable," says ARPANSA.⁵

"It is recommended that, due to lack of sufficient data relating to children and their long-term use of mobile phones, parents encourage their children to limit their exposure by reducing call time, by making calls where reception is good, by using hands-free devices or speaker options or by texting."⁶ (see more detailed advice below)

The ARPANSA fact sheet on Wi-Fi provides the following advice to parents about the use of Wi-Fi in schools:

"On the basis of current scientific information, ARPANSA sees no reason why Wi-Fi should not continue to be used in schools and in other places. However, ARPANSA recognises that exposure to RF EME from Wi-Fi and other wireless devices can be of concern to some parents. ARPANSA will continue to review the research into potential health effects of RF EME emissions from Wi-Fi and other devices in order to provide accurate and up-to-date advice."⁷

Do so-called 'shields' work if people are concerned about health and safety?

Although current scientific research does not indicate mobile phone use is associated with harmful health effects there are simple things that can be done to substantially reduce exposure if people have concerns.⁸

"The most effective way to reduce exposure is to increase the distance between the mobile phone and the user," says ARPANSA.⁹

Other things that can be done to reduce RF EME exposure from mobile phones are:

- ▶ not using a mobile phone when a fixed-line phone is available
- ▶ sending a text message or instant message instead of making a voice call
- ▶ limiting the duration of calls
- ▶ making calls where reception is good.¹⁰

ARPANSA says to be aware that some so-called protective devices may not reduce RF EME. These products are attached to the handset and take the form of shielded cases, earpiece pads/shields, antenna clips/caps and absorbing buttons.

ARPANSA says: "Currently there are a number of protective devices available on the market which claim to protect the mobile phone user from RF EME emissions. Scientific evidence does not indicate any need for such devices since their use cannot be justified on health grounds and their effectiveness in reducing exposure in everyday use is unproven."¹¹

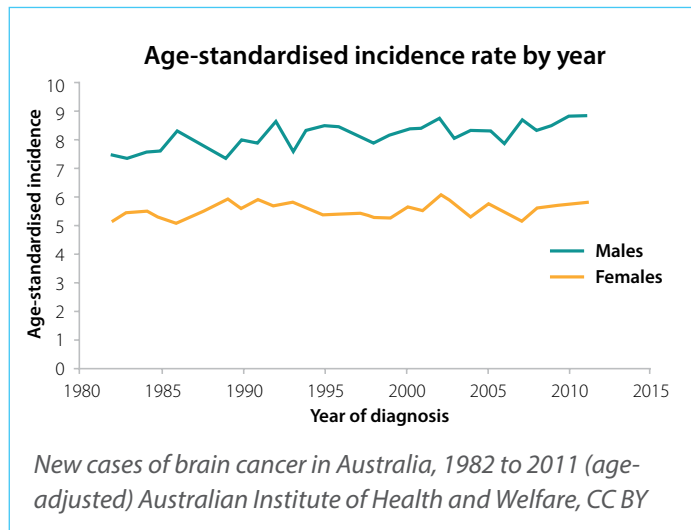
Claims that mobiles are linked to brain cancer – what does the evidence say?

Today there are well over 31 million mobile services in operation in Australia. In nearly three decades since the first mobile phone call in 1987, Australians have embraced mobile telecommunications technology.

Critics claim that there has been an increase in the incidence of brain cancer over the past three decades. What does the evidence say?

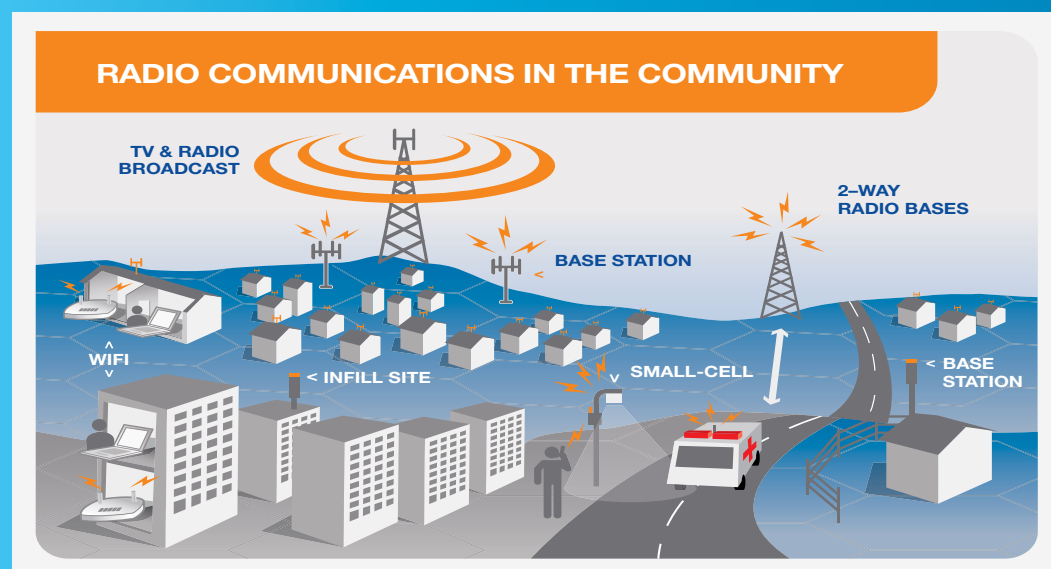
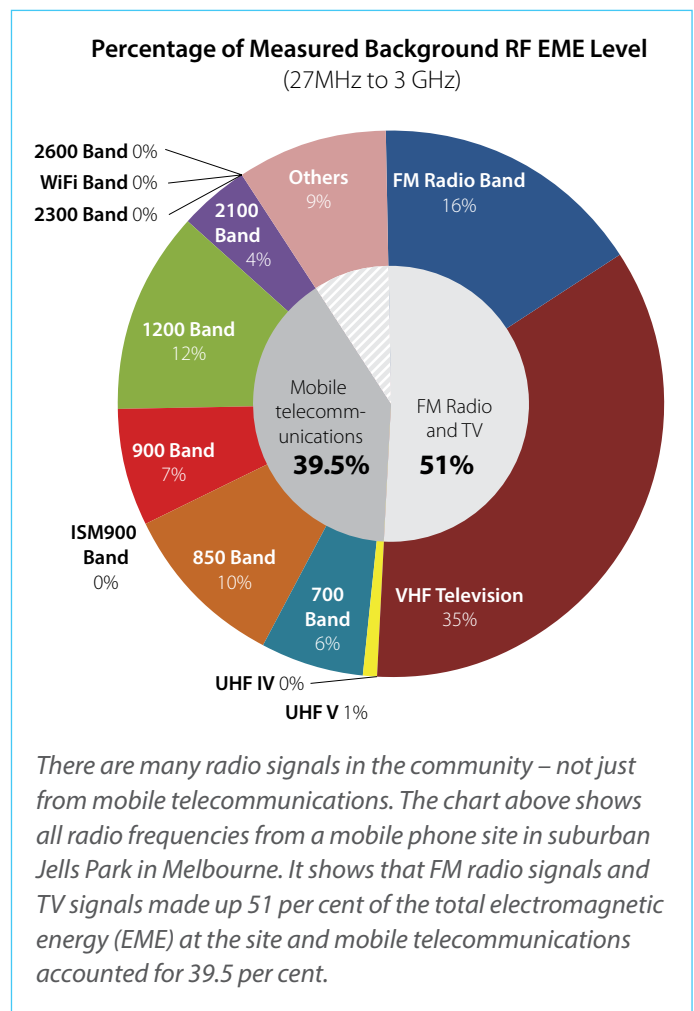
Simon Chapman, Professor of Public Health at the University of Sydney, says official data shows that brain cancer incidence has all but flat-lined across the 29 years for which data is available.¹²

In 1987 the age-adjusted incidence rate of brain cancer in Australia per 100,000 people was 6.6. In 2011, the most recent year for which national data is available, the rate was 7.3.



Mobile phone use is unlikely to cause brain cancer because if there was a link it would have been expected to be evident in the incidence of brain cancer, said Dr Maria Feychting, Vice Chairman of the International Commission on Non-Ionizing Radiation Protection (ICNIRP), at a workshop on safety standards held in Wollongong.

"By now we would have seen an increase in the incidence of brain tumours – which we do not see," Dr Feychting said during the workshop on safety standards held in Wollongong in November 2014.



Radio communications are a part of everyday life in the community. Radio frequency technology is used by TV and AM/FM radio broadcasts, mobile phones and base stations, wireless broadband, cordless phones, baby monitors, emergency services, government communications and air traffic control.



Base stations and schools

The mobile phone industry is required to balance concerns of local communities against community-wide demand for advanced mobile telecommunications services, including mobile broadband, which requires careful placement of network infrastructure to ensure good coverage and capacity.

In most cases the best location to build a base station in order to minimise emissions is closest to where the service is required, including schools, residential areas and hospitals.

Some local communities have relied on State Department of Education guidelines calling for a 200-metre buffer zone between base stations sites and schools.

Industry supports the rights of local communities to voice their concerns about proposed base station sites, however, such well-meaning advice for buffer zones is based on the incorrect assumption that the further away a base station is from people the less they would be exposed to radio wave emissions.

The ACMA says that all mobile phone base stations must comply with the mandatory regulations for EME.

“In some instances, locating the infrastructure away from a sensitive area can mean that it has to operate at greater power to meet service requirements, which may result in higher exposure levels in the sensitive location.”¹³

Conclusion

The mobile telecommunications industry takes all matters of mobile phone safety very seriously.

It’s important that debates about health and safety issues are based on the weight of scientific evidence presented by independent experts, such as the World Health Organization (WHO) and the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

The Australian Mobile Telecommunications Association (AMTA) and its members, Telstra, Optus and Vodafone, do not claim to be scientific safety experts, however, we are required by law to comply with strict safety standards via conditions placed on operating licences. Telstra, Optus and Vodafone offer consumer advice and information on mobile phone safety via their web sites.

Finally, people should weigh up the importance of advanced mobile telecommunications services delivering proven social

and economic benefits to their families and communities against unproven and unsubstantiated claims of possible health effects that are not supported by independent official expert bodies.

Links

www.who.int/en

www.arpansa.gov.au

www.icnirp.org

<http://emfguide.itu.int/emfguide.html>

www.emfexplained.info

www.amta.org.au

www.mcf.amta.org.au

See other related AMTA Mobile Minutes

- ▶ Productivity and Mobile Telecommunications
- ▶ Mobile Networks
- ▶ MobileMuster – Mobile Recycling and Product Stewardship

The Australian Mobile Telecommunications Association (AMTA) is the peak body representing Australia’s mobile telecommunications industry. AMTA members include mobile Carriage Service Providers (CSP), handset manufacturers, retail outlets, network equipment suppliers and other suppliers to the industry.

The Mobile Carriers Forum (MCF) is an industry group representing the three mobile phone carriers deploying mobile networks in Australia: Telstra, Optus and Vodafone Hutchison Australia (VHA). The MCF is a specialised AMTA forum that deals specifically with issues related to the deployment and operation of mobile phone networks.

(Endnotes)

- 1 ARPANSA, Fact Sheet – *Mobile Phones and Health*, March 2015
- 2 ACMA, *Mobile phone base stations*, 12 October 2015
- 3 Prof Rodney Croft, Director of the Australian Centre for Electromagnetic Bioeffects Research, Position Statement <http://acebr.iow.edu.au/position-statements/index.html>
- 4 Ibid
- 5 ARPANSA, *Radiation Protection – Mobile Phones and Health*, 26 March 2015
- 6 Ibid
- 7 ARPANSA, *Wi-Fi and Health*, March 2015
- 8 ARPANSA, *Mobile Phones and Health*
- 9 Ibid
- 10 Ibid
- 11 Ibid
- 12 Prof Simon Chapman, *No, we’re not all being pickled in deadly radiation from smartphones and wifi*, *The Conversation*, 20 May 2015: <https://theconversation.com/no-were-not-all-being-pickled-in-deadly-radiation-from-smartphones-and-wifi-41980>
- 13 ACMA, *Placement of mobile phone towers*, 21 May 2015