



How to Reduce Exposure from Mobile Phones and Other Wireless Devices

There is no established scientific evidence that the use of mobile phones causes any health effects. However the possibility of a small risk cannot be ruled out. There are things one can do to substantially reduce exposure.

Overall, the evidence suggests that the radiofrequency (RF) electromagnetic energy (EME) emissions of mobile phone handsets are not harmful to the user.

However, it's impossible to be completely sure there isn't some risk. This is particularly true for children where there is little research evidence.

One way to exercise caution is to reduce unnecessary exposure from your handset and to encourage your children to do this. This can be done easily. Remember, it doesn't have to be for every phone call and in an emergency there are better things to worry about.

If you would like to reduce your exposure, here are some tips for doing so.

Mobile phones

You can reduce your exposure to RF EME from your mobile phone in three simple ways:

1. Distance

The most effective way to reduce the exposure is to increase the distance between your mobile phone and your head or body. You can do this by:

- using a wired ear-piece/microphone hands-free accessory
- using the phone on speaker mode
- texting rather than talking
- keeping the phone a distance from the body, as recommended in your phone's user manual
- even placing your thumb between the phone and your ear.

2. Time

If there are any harmful effects, then it's likely that the longer the exposure to RF EME the greater any risk may be.

You can reduce your exposure time by keeping voice calls short, especially when you are not using hands-free.

3. Power

Usually a phone in an area with good reception will transmit at much lower levels than in an area with poor reception like a lift or deep within a large building.

You can limit the amount of power your phone uses by:

- using your phone in good signal areas where possible (shown by lots of bars on the reception indicator)
- avoiding using your phone in poor signal areas such as lifts and moving vehicles. (Note: It is illegal to hold your phone to your ear while you are driving a motor vehicle.)

Cordless phones

Cordless phones generally have lower maximum power levels than mobile phones but don't all have the same automatic reduction in power that mobile phones have. Also the bases of many cordless phones are continually transmitting low-level signals.

You can reduce your exposure to RF EME from cordless phones by:

- using speaker mode
- limiting the length of the call
- keeping your distance from the cordless phone base unit
- using a wired land-line phone.

Due to the lack of scientific evidence on mobile and cordless phone use by children, ARPANSA recommends that parents encourage their children to limit their exposure.

Other wireless devices

Many other household wireless devices use RF EME to communicate, including:

- wireless computer networks
- audio-visual transmitters
- wireless security cameras, and
- baby monitors.

In typical use RF EME exposures from these devices are usually well below the limits of the Australian standard. However, if you use them with their antennas very close to the body, you can be exposed to levels closer to the limits of the standard.

You can reduce your exposure from these devices by:

- keeping them at a distance, for example placing the wireless router away from where people spend time
- reducing the amount of time you use them.

Protective devices

Be aware that some so-called protective devices may not reduce RF EME.

Mobile phone devices

These products are attached to the handset and take the form of shielded cases, earpiece pads/shields, antenna clips/caps and absorbing buttons.

- A cover or device that separates the phone from the head will reduce exposure to some extent but may interfere with the phone's ability to automatically reduce its power.
- Tests have shown that many of these devices can reduce your exposure when the phone is set to transmit at maximum power. However, because phones have automatic power control, these shields make the phone work harder, transmitting more power, increasing heat and reducing battery life. The incoming signal to the phone will also be reduced so the phone may not work in poor signal areas.

'Neutralising' products

Some products that attach to the phone are advertised as neutralising any harmful effects. Their claims are not consistent with current scientific knowledge and it is difficult, if not impossible, to verify any benefits.

Although sellers of some of these devices have reported biological tests to support health claims, there is no reliable evidence that such devices provide any health benefits other than by perhaps reducing people's anxiety or by a placebo effect.

ARPANSA does not recommend the use of any protective devices other than approved hands-free accessories that let you keep the phone away from the head during use.

Useful links

ARPANSA fact sheet on RF EME

www.arpansa.gov.au/RadiationProtection/basics/rf.cfm

ARPANSA fact sheet on mobile phones and health effects

www.arpansa.gov.au/mobilephones

WHO fact sheet on mobile phones

www.who.int/mediacentre/factsheets/fs193/en

The ARPANSA RF Standard

www.arpansa.gov.au/Publications/codes/rps3.cfm