

Cordless phones: the unspoken DECT hazard at home and at work

Why talk about DECT phones on a TETRA website? One main reason is to help determine causes of symptoms that might be attributed falsely to TETRA. We have heard and found many reports of similar adverse symptoms that are more likely to be caused by DECT (Digital Electronic Cordless Telephones), and indeed that have been eliminated by stopping using these phones. You will be unaware of what they do, but if you have one, read the following carefully. Many people will be equally unaware of neighbours using DECT, whose pulses penetrate right through their walls. DECT comes with no guidance and no health warnings. This must be wrong.

About DECT Cordless Telephones

All modern (DECT) digital cordless phones emit the same type of pulsed microwave radiation (about 1.8 GHz) as ordinary (GSM) mobile phones. Emissions can be about 6 V/m within a metre of the base unit, for as long as it is plugged in. These base stations emit their radiation even when the phone is not in use. All DECT base units emit microwaves continuously 24 hours a day as long as they are plugged in. For this reason cordless phones are regarded as bad news. The latest Lennart Hardell paper on mobile phone use and brain tumours ($\times 3$ for 5 years use and $\times 3$ to 4 for 10 years use) also show a dose response increased brain cancer risk for long-term (over 5 years) regular cordless phone use. A DECT phone is a mobile phone, and its base is a mobile phone mast in your house or office. You must use one? Keep the base unit and remote extra handsets away from where you sit or sleep, and remember that you are transmitting into neighbouring property through your walls.

Unlike mobile phones, DECT cordless phones work at a fixed power. Mobiles turn their power down to the lowest level possible, so when you are near a base station this can be much lower than a DECT cordless. DECT pulses are far more aggressive than for mobiles.

Note: DECT phones are now being manufactured and available in Germany, and now in the UK that only transmit from the base when the handset is lifted. Of course, these are not sold as a 'safer' variety, but as 'lower emission'. Lower emissions matter to the more wary manufacturers, who nevertheless claim that there is not much demand. They are safer – to everyone. But don't be deceived, the handset is still a GSM mobile phone. Read on ...

Orchid have are now producing their 3rd generation 'low radiation' DECT cordless phones – their main advantages over the previous models are:

- a. There are no microwave emissions when the phone is not being used. When a call is ended both the phone and the base station go into 'sleep mode' (no microwave radiation) until either a call is received or made. There is no need to return the handset back to the base station for 'sleep mode' to become operative.
- b. The phone/base station adjust their power output depending on how far away the base station is from the handset. If you make a call up to several meters from the base station power output is reduced by as much as 75%.

[Rowtex Limited](#) has now taken over the sales and distribution of all Orchid Low Radiation phones.

Mobile phone concerns

A team led by Professor Kjell Mild, a Swedish biophysicist, who has produced a number of many leading mobile-phone health effects papers has published an update on his brain-tumour work in the summer of 2001, when he discussed his results to date at an international conference chaired by Alasdair Philips of [Powerwatch](#).

Another study by Dr Lennart Hardell, published in the *International Journal of Oncology*, was based on the analysis of 1,600 tumour victims who had been using mobile phones for up to 10 years before being diagnosed. Prof. Mild now states: 'The evidence for a connection between phone use and cancer is clear and convincing. The more you use phones and the greater the number of years you have them, the greater the risk of brain tumours. ... Mobile phones are here to stay so my advice is never to use one without a hands-free headset.'

An earlier study by Mild, a cancer specialist, linked brain tumours to the use of analogue mobile phones. The new research repeated this and also looked at digital mobiles and DECT cordless phones. It showed that all three types were linked with increased tumour rates. The extra tumours only start to really show up after about 5 years use, but there is increasing dose-related-response with minutes of use per month and number of years of use.

Since 1980, the number of acoustic neuromas (a rare tumour) diagnosed in Britain has risen from one in every 100,000 of the population to one in 80,000 a year. Some (but not all) other types of tumour also show an increase.

Dr Richard Sullivan, head of clinical programmes at Cancer Research UK and quoted in the [Sunday Times on 16th March 2003](#), said the study was worrying. 'It suggests a strong link between mobile phones and brain tumours. We now need a full-scale study.'

On 14 October a study by the [Karolinska Institute](#) in Sweden found a pronounced risk of acoustic neuroma (cancer) from use of mobile phones over a ten year period (imagine: aged just from 14 to 24: ages of many big users of mobile phones).

DECT pulse frequency concern

It is important to put out a warning about DECT phones, as they could be up to 100 times worse than an ordinary mobile, particularly if used in built up areas. The reason for this is the frequency of the pulse. DECT pulses at 100Hz whilst a GSM mobile pulses at 217Hz. Remember, the lower the pulsing frequency, the stronger the biological effect. It's the pulsing within the ELF (extremely low frequency) range we have to be concerned about. That's why TETRA is so dangerous. It pulses at 17.6Hz, right within the human beta brainwave rhythm range. Dr von Klitzing, who was one of the Medical Physicists signing the [Freiburger Appeal](#), reported his research regarding DECT phones. His research on blood samples taken from children in the vicinity of DECT phones showed that the red blood corpuscles did not 'ripen out properly' (a direct translation of his words). The physical signs were: listlessness and/or aggression, pallor, sleeplessness etc. This could be reversed with the removal of the phone.

Choice

In your own home you have a choice, and it is yours. If you have reservations as a result of reading up on DECT, at least revert to an older style analogue cordless phone – or put up with wires!

Neighbours' phones are another matter. If you know where such a phone base is, you may decide to try foil on the wall in a large patch, to screen the DECT out. If it works, you might prefer to install it more permanently under wallpaper. But do note that microwaves tend to run around such barriers like water around a stone in a stream, so a small phone-sized patch will not work. (Findings from using an Acousticom detector.)

If you find your foil disrupts the neighbouring phone, you don't want to get into a dispute, with one of you moving the phone and the other moving the screen. Try and explain the problem in an open way, using the research listed here.

DECT in the office? Again an emotive subject. All your employer will do is refer to the Health and Safety Executive, who refer to the NRPB, who cite the ICNIRP (if it doesn't heat you it can't harm you) guidelines. These are wholly inappropriate, so employees have (a) no guidance and (b) no way to assess exposure in the office. The manufacturers give no advice on density of DECT per square metre. If you are sensitive to DECT, try to explain what you experience and ask for a wired phone. But I know it may not be easy.

Signs of change

One might ask why, if there is absolutely nothing to worry about from such a small radiation source as DECT, there has been such medical concern, and now, industry

response. Here is a press notice '[DECT – radiation source in the dwelling](#)' from the German Bundesamt für Strahlenschutz (Federal Office for Radiation Protection) [[translation](#)]. The issue is that DECT does not need to transmit continuously. And so a new DECT is being manufactured in Germany that does not transmit continuously, and only as required. In fact it is so popular, they cannot make them fast enough.

References

[Nonstop Pulsed 2.4GHz radiation inside US homes](#). Essential reading.

[Damage to brain cells from mobile phones](#) Leif Salford et al.

[Kjell Mild and Lennart Hardell, on mobile phones and cancer](#)

[ElectroSensitivity-UK has a page: 'Cordless phones are a pain'](#)