

- My name is Victor Leach (Applied Physics RMIT 1969, MSc 1989 Melb Uni) I am a retired radiation health physicist and have over 48 years experience in the setting of radiation protection limits and the philosophy behind the setting of these limits.
- I am a founding member of two professional associations the Australian Radiation Protection Society (45 yrs old) and the Oceania Radiofrequency Scientific Advisory Association (ORSAA) (5yrs old) have also worked at the Australian Radiation Laboratory (now called ARPANSA) for over a decade from 1972 to 1982.
- Unlike ionising radiation, that is X rays and gamma rays this wireless communication radiation is man-made and does not occur in nature. It is discrete frequencies, polarised, carries low frequency modulations, so these complexities make this radiation very bioactive.
- So for example in a classroom of students all surfing the internet on their computers means there can be hot-spot in the room. ARPANSA did a NSW schools survey in which they made short-term measurements (1 min averages) with one laptop in room with no students present and said this was a typical classroom situation. I think you will all agree this is not a typical classroom. Therefore, the results cannot be relied upon.
- It's clear that the current ICNIRP guideline which ARPANSA follow supports short-term (6 minute) heating standard is not applicable to the exposures that the general population are exposure to 24/7.
- The ICNIRP makes the assumption that low-level exposure to this type of wireless radiation that all these pathological (bio-effects) effects that occur in an organism can be compensative for by the organism, it is called adaptive response. So ICNIRP admits that non-thermal exposure do cause bio-effects but these effects will be managed by the

bodies natural defenses. This adaptive response is assumed will be protective of everyone. I strongly disagree with this assumption as in any community you have both well and unwell people. Children, the aged, those with immune and autoimmune disease, of which there are many now, will not be able cope with this extra insult on their bodies defence system.

- Many of these bio-effects we see with this wireless radiation we also see at low dose ionising radiation (X-rays and Gamma rays). Another group called the International Commission on Radiological Protection (ICRP) writes guidelines for low exposure to ionizing radiation and adopts a precautionary approach using principles such as As Low As Reasonable Achievable (ALARA). ALARA need to be incorporated in the design of equipment. How many people know that the antenna in their mobile phone has been moved from the top to the bottom of the phone. I now see we have WiFi in children nappies. How many here think this is a good idea. I can think of an application but it is not babies nappies.
- People very rarely have contact with ACUTE exposures in everyday life.
- All populations in the world have daily contact with low levels of wireless radiation and are chronically exposed. This thermal standard for mobile phones exposure on the basis of heating does not apply for children and adolescence.
- There are currently no way to estimate safety by using existing International guidelines recommendations from acute exposures to chronic exposure, that is from thermal levels to non-thermal levels of exposures.

- This is why we need to adopt a much lower threshold level as a precaution.
- Many countries have selected a guideline 100 times lower as a precautionary approach. France recently banned WIFI and other wireless devices in kindergartens while imposing restrictions on use of wireless for older students. The Italian courts are now ruling in favour of compensation to those occupational mobile phone users who have developed brain tumours.
- These radiation devices are now tools of the trade for not only businesses but for everyone. The ARPANSA approach of sending you an information sheet on how to minimize your mobile phone exposure on the basis of “if you are concerned” is not good enough. We should be advising all users to change their habits.
- Very few of my colleagues in radiation protection have assessed the science on this radiation. Most work in hospitals as medical physicists. Since 2017 I have been presenting papers at our annual ARPS conferences. I have been very critical of ARPANSA. I will send you the papers and letters to the editor in the follow-up.
- We need a Health symposium on this matter. These concerns are far reaching in our Australian community and cannot be easily dismissed as ‘Tin-hat-foil’ wearers.

Extra comments on Mobile Phone use.

There are diverse health risks for users of mobile devices and those who are exposed to RF from wireless infrastructure such as mobile masts. Altogether, the epidemiological studies and the well-conducted studies with no conflict of interest have found effects. A number of risks were even identified by the 13-country Interphone study, which was partially industry funded, and the French CERENAT study which followed the Interphone protocol.

The risk of brain tumours from mobile phone use is convincing.

In summary, research shows that for certain brain tumours:

- the higher the cumulative hours of mobile phone (MP) use, the higher the risk
- the longer the time from first using an MP, the higher the risk – ‘If a mobile phone is used for more than 10 years there is a statistically significant risk’
- the higher the power, the higher the risk
- the younger you are, the higher the risk
- there is a higher risk of tumours occurring on the same side of the brain as the handedness of the user.

Hence, authorities need to be advising people to change their habits when using these radiation-emitting devices and to adopt a harm-minimizing approach.