

AN APPEAL FROM 20 INTERNATIONAL EXPERTS ASSEMBLED AROUND Dr DAVID SERVAN-SCHREIBER IN RELATION TO THE USE OF MOBILE PHONES

- ANALYSIS OF RECENT STUDIES
- TEN PRECAUTIONARY MEASURES

ANALYSIS OF RECENT STUDIES

The electromagnetic fields emitted by mobile phones should be considered a health risk. It is important to protect yourself. Ten simple precautions can help.

Existing epidemiological studies are insufficient to conclude definitively that the use of mobile phones is associated with an increased risk of cancer and other health problems.

However, a scientific consensus exists that extant studies have demonstrated the following:

1) **Significant penetration of electromagnetic fields from mobile phones in the human body**, particularly in the brain, and especially in children due to their smaller size. (Figure 1.) [1 , 2]

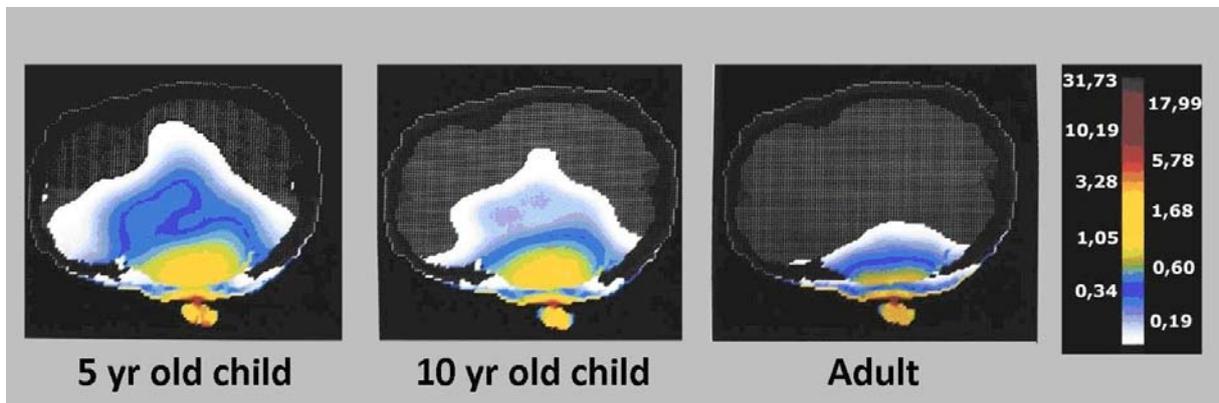


Figure 1. Estimation of the penetration of electromagnetic radiation from a mobile phone based on age (Frequency GSM 900 Mhz) (On the right, a scale showing the *Specific Absorption Rate* at different depths, in W/kg) [1]*

* Researchers in the INTERPHONE study obtained comparable results with 129 more recent models mobile phones (frequencies of 800 to 1800 MHz, PDC and GSM) on models of an adult brain, but have not assessed absorption in children's brains. [2]

2) **Various biological effects on living tissue from electromagnetic fields within the frequency bands used by mobile phones** (from 800 to 2200 MHz) even below the threshold of power imposed by the European safety standards (2 W/Kg for 10g of tissue), notably an increase in the permeability of the blood-brain barrier and an increased synthesis of stress proteins. [3, 4, 5, 6]

Moreover, we note that human **epidemiological studies conducted to date cannot be conclusive**. Due to the recent introduction of mobile phones, they have not included a sufficient number of people who used their phones for more than 10 years and several hours per week.

Even where an association between exposure and cancer is well established and the risk very high -- as with tobacco and lung cancer -- under similar study conditions (in other words with people who smoked for less than 10 years) it would be difficult, if not impossible, to identify an increased risk of cancer, as **the risk appears mostly 15 to 35 years later**. [7].

The most recent studies, which include subjects with a history of mobile phone usage during the last 10 years, show a probable association between certain benign tumors (neurinomas of the acoustic nerve) and some brain cancers *on the side the device is used*.*[6 , 7 , 8, 9]

THE TEN PRECAUTIONS

Given the absence of definitive proof in humans of the carcinogenic effects of electromagnetic fields of mobile phones, we cannot speak about the necessity of *preventative* measures (as for tobacco or asbestos). In anticipation of more definitive data covering prolonged periods of observation, the existing data presses us to share important measures of *precaution* for mobile phone users, as have been variously suggested by several national and international reports. [6, 9, 10, 11, 12]**

These measures are also important for people who are already suffering from cancer and who must avoid any external influence that may contribute to disease progression.

1. Do not allow children **under 12 years of age** to use a mobile phone except in emergencies. The developing organs (of a fetus or child) are the most sensitive to any possible effects of exposure to electromagnetic fields.
2. While communicating using your mobile phone, try to **keep the mobile phone away from the body**. (The amplitude of the electromagnetic field is four times lower at a distance of 10 cm (4 inches), and fifty times lower at 1m (3 feet)– see figure 2)

Whenever possible, use the **speaker-phone mode**, or a hands-free kit equipped **with an air tube** in the last 20 centimeters, which seems to transmit fewer electromagnetic waves than a traditional hands-free kit, or a **wireless Bluetooth headset**, (less than 1/100th of the electromagnetic emission of a normal phone.)

* The risk for these people could be almost twice as high as for non-users, and possibly more.

** Electromagnetic radiation from fixed mobile phone antennas and WIFI transmitters is weaker than that from mobile phones. For this reason, we limit our current recommendations to the use of telephones.

3. As much as possible, **stand away from a person using their mobile phone**, and avoid using your mobile phone in places like the subway, the train or the bus where you can passively expose your neighbors to your phone's magnetic fields.
4. **Avoid carrying your mobile phone with you**, even when turned off (on standby). Do not keep it near your body at night (under the pillow or on the bedside table) particularly if **pregnant**. You can also put it on "flight" or "off-line" mode, which stops electromagnetic emissions.
5. If you must carry your mobile phone on you, make sure that the face (key pad) is positioned toward your body and the back (antenna side - stronger magnetic field) is positioned toward the outside.
6. Only use your mobile phone to **establish contact** or for conversations lasting **only a few minutes** (biological effects are directly related to the duration of exposure). It is best to call back from a land line with a *cord* (not from a cordless phone, which uses microwave technology similar to that of mobile phones).
7. **Switch sides regularly and**, before putting your mobile phone to the ear, **wait until your correspondent has picked up** (which limits the power of the electromagnetic field emitted).
8. **Avoid using your mobile phone when the signal is weak** or when moving at high speed, as in a car or train (this automatically increases power to a maximum as the phone repeatedly attempts to connect to a new relay antenna).
9. When possible, communicate via **text messaging** rather than making a call (thus limiting the duration of exposure and the proximity to the body).
10. **Choose a device with the lowest SAR possible** (SAR = Specific Absorption Rate, which measures the strength of the magnetic field absorbed by the body). SAR rankings of contemporary phones by different manufacturers are available on several websites.*

* Search for SAR rankings by typing "sar ratings mobile phones" in a search engine. Note that the unit of the SAR is different in Canada and the USA in relation to the European measure. The ranking remains the same but the actual numbers are different because they are not the same units.

** Certain headsets with air tubes can be ordered online by searching for "air tube headset". The data on hands-free kits without the air tube are still too imprecise to guarantee safety. In addition, a recent study observed the same increased risk for tumors of the parotid in frequent mobile phone users, whether or not they used a traditional hands-free headset. [13]

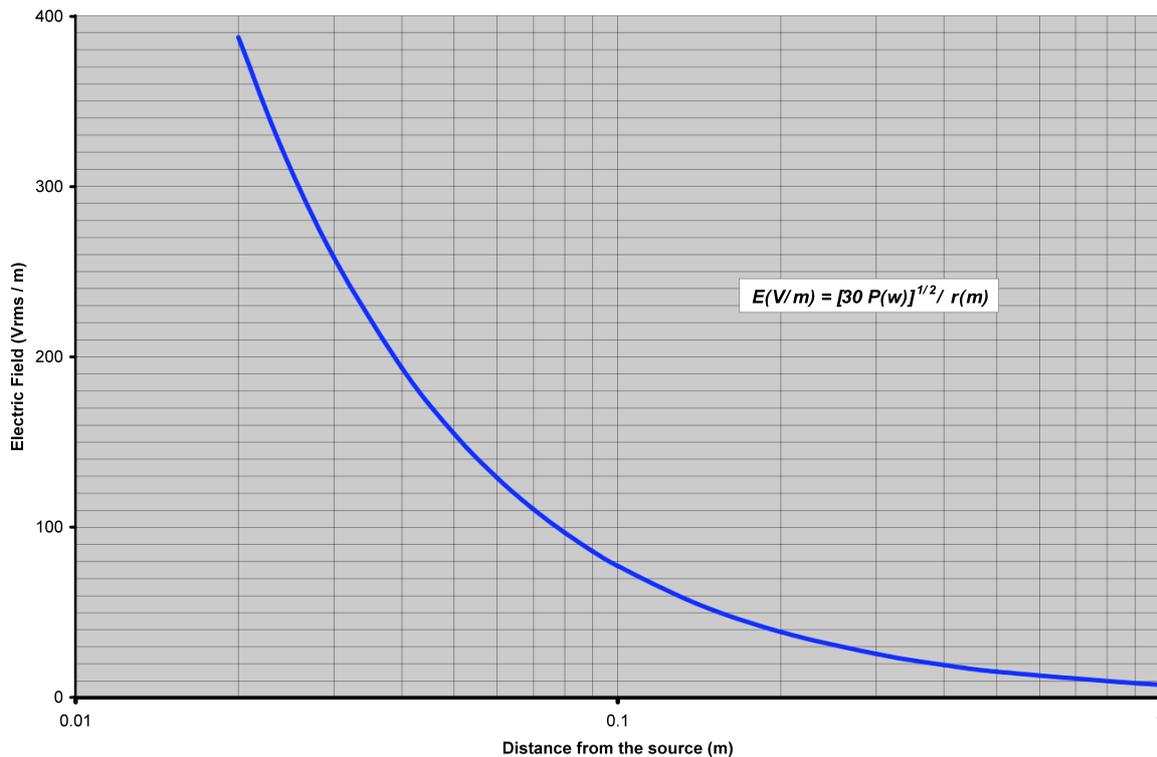


Figure 2. Estimate of the amplitude of the electromagnetic field of a cell phone as a function of distance from the apparatus. [14]

CONCLUSION

The mobile phone is a remarkable invention and a breakthrough of great social importance. **Our society will no longer do without mobile phones.** None of the members on the expert committee has stopped or intends to stop using mobile telephones. This includes me, (DSS), someone diagnosed with brain cancer for the past 16 years. However, **we, the users, must all take precautionary measures** in view of recent scientific data on the biological effects of cell phone use, especially those who already have cancer.

In addition, **manufacturers and service providers must also assume responsibility.** It is their responsibility to provide appliances and equipment with the lowest possible risk and to constantly evolve their technology in this direction. They should also encourage consumers to use their devices in a way that is most compatible with preserving their health.

In the early 1980's, the owners of asbestos mines were reduced to bankruptcy as a result of lawsuits brought by the families of deceased exposed workers. A few years later, a key executive of Johns Manville, the most prominent company, drew lessons from the years of struggle of his industry against medical data and the scientists who were drawing attention to the risks of asbestos. He concluded with regret that greater warnings for the public, the establishment of more effective precautions, and *more extensive* medical research "could have saved lives, and probably also shareholders, the industry, and the benefits of its product." [14, 15]

That is what we wish for today's mobile phone industry. We do not need to ban this technology, but to adapt it – to harness it – so that it never becomes a major cause of illness.

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