

# Only ten minutes on a mobile could trigger cancer, scientists believe

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Mobile phones can take as little as ten minutes to trigger changes in the brain associated with cancer, scientists claimed yesterday.

They found even low levels of radiation from handsets interfere with the way brain cells divide. Cell division encourages the growth of tumours.

Although the researchers did not come up with evidence that mobile phone signals are harmful, the findings suggest they could be.

Several major studies have also found no link between mobile use and brain tumours, nor a dramatic rise in cancer rates.

But campaigners insist the discovery undermines official advice that the devices are safe.

The guidance is based on the assumption that the phones emit too little radiation to heat the brain dangerously.

However, the new study by the Weizmann Institute of Science in Israel suggests "nonthermal" radiation could pose a risk.

The Israeli scientists exposed human and rat cells in a laboratory to low-level radiation at 875 megahertz - a similar frequency to the one used in many mobile phones.



It only takes ten minutes on the phone to trigger dangerous brain chemical changes, scientists say.

Although the radiation was far weaker than emissions from a typical handset, it began to switch on a chemical signal inside the cells within ten minutes, the researchers report in the *Biochemical Journal*.

The chemical signals they detected were involved in the division of cells.

The researchers say the reaction was not caused by heating and claim they have found a separate way in which mobile phones could damage health.

Dr Rony Seger, a co-author of the study, told the magazine *New Scientist*: "The significance lies in showing cells do react to cellphone radiation in a non-thermal way."

Although changes in the chemical pathway seen by the Israeli scientists have been linked to several cancers, the researchers say there was no sign of a cancer-causing effect.

Dr Simon Arthur, a health expert at Dundee University, said the effect was 'unlikely to cause cancer'.

Dr Dariusz Leszczynski, of the Radiation and Nuclear Safety Authority in Helsinki, said: "If cell-phone radiation cannot induce biological effects then there will never be any health effects."

"On the other hand if we can show this radiation is able to induce biological effects then we have a different story."

A major review of mobile phone safety is due to be published by the Health Protection Agency next month.

The agency's last major report, in 2004, found no evidence mobiles were a serious health risk. It did, however, caution against excessive use, especially by the young.

Dr Michael Clark, a spokesman for the agency, said: "Because of findings like this that pop up from time to time, a precautionary approach is justified."

Graham Philips, of campaign group Powerwatch, said: "Safety guidelines assume health effects from mobiles can only occur when significant heating of body tissue occurs."

"This study shows biological changes in response to low-level mobile phone radiation - something that could potentially have implications for health."

"Further research is required, however guidance based purely on thermal effects is clearly out of date."