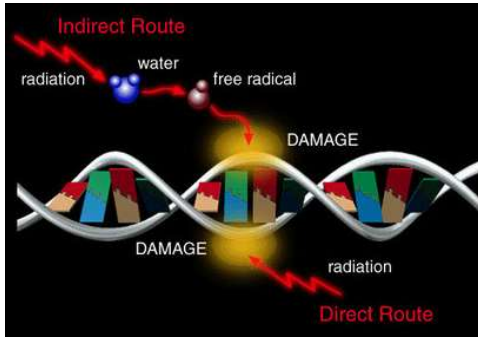


## Studies showing RF radiofrequency microwave radiation to be harmful to human health



There are an enormous number of . Thousands of studies conducted over the last 80 years have found a wide variety of bioeffects, including permanent DNA damage.

(2011) A study was published in the Journal of Fertility and Sterility that found exposure to WiFi laptops damaged DNA and the reproductive system in as little as 4 hours.

(2012) A study released by the Journal of Pediatric Urology showed WiFi causes DNA damage to rat's testes at the cellular level. Radiation levels were lower than what would be found in schools.

There are many other studies that have also found that RF microwave radiation causes genetic damage. Here are two reports that show this in detail: [Report by Dr. Henry Lai](#) [Report by Dr. Neil Cherry](#)

Swisscom, a leading telecom provider in Switzerland, admits that WiFi damages DNA in a patent application:

**"Thus it has been possible to show that mobile radio radiation can cause damage to genetic material, in particular in human white blood cells, whereby both the DNA itself is damaged and the number of chromosomes changed. This mutation can consequently lead to increased cancer risk. In particular, it could also be shown that this destruction is not dependent upon temperature increases, i.e. is non-thermal."**

For more information on Swisscom's patent application: [\(Link\)](#)

International Agency for Research on Cancer Scientist states that RF radiation is a Class 2A Probable Human Carcinogen

[The Scientific Evidence Showing RF is a Class 2A or Class 1 Human Carcinogen](#)

Scientist Dr. Phillips describes industry attempts to suppress DNA damage research

See other video presentations on DNA damage on the [educational videos page](#)

## Leakage of the Blood Brain Barrier

In addition to DNA damage, another area of study is leakage of the blood brain barrier. Studies conducted around the world show that this happens at comparatively low levels, and in as little as 2 hours of exposure.

## Studies Show a wide variety of adverse biological effects

Although there are few studies on WiFi, there are many on cell phones, cell phone towers, and general RF radiofrequency radiation. RF radiation has been found to increase the risk of cancer, disrupt melatonin, effect thyroid function, cause leakage of the blood brain barrier, decreased cognitive function, and a long list of many other bioeffects.

Most of us aren't aware that every long-term case-control cell phone study has found an increased risk of cancer. [Research](#) has also shown that children absorb more radiation than adults, leading to significantly increased cancer rates for those who started using a cell phone before the age of 20.

## Comparing to Background Levels

In the chart below the unit of measurement is nanowatts per square meter. Although this is an

unorthodox unit of measurement, it's it is useful in that it allows us to accurately compare to background levels. (1 nanowatt = 0.001 microwatts)

## A Comparison of WiFi Emissions to Scientific Research

<u>Radiation Levels</u> (nW/m2)	<u>Effects</u>	<u>Researcher</u>	<u>Year</u>
<b>10,000,000,000</b>	<b>FCC Exposure Guidelines, 30 min public exposure, based solely on thermal effects</b>	<b>FCC</b>	<b>1986</b>
<b>90,000,000</b>	<b>iPads and WiFi enabled laptops - direct body contact</b>		
60,000,000	DNA damage in cells	Phillips	1998
52,500,000	Induced stress response	Kwee	2001
<b>35,000,000</b>	<b>1 foot from iPads and WiFi enabled laptops</b>	Khalid	2011
50,000,000	Impaired nervous system activity	Dumansky	1974
50,000,000	Drop in NK lymphocytes (immune function decreased)	Boscolo	2001
40,000,000	Slowed memory/altered immune function in children	Chiang	1989
40,000,000	Changes in hippocampus, part of brain memory, learning	Tattersall	2001
30,000,000	Irreversible infertility (in mice at 3 generations)	Magras	1997
20,000,000	Double-strand DNA damage	Kesari	2008
13,000,000	2x rate of leukemia in adults	Dolk	1997
12,500,000	Affected kidney development	Pyrpasopoulou	2004
10,000,000	Headaches, dizziness, irritability, fatigue, weakness, insomnia, chest pain, difficulty breathing, indigestion	Simonenko	1998
10,000,000	Affected functions of the immune system	Novoselova	1999
8,000,000	Emotional behavior changes (free-radicals)	Akoev	2002
6,000,000	Change in calcium ion efflux from brain tissue	Dutta	1986
5,000,000	Decreased sperm motility and increased DNA fragmentation	Advendano	2010
3,800,000	Affected calcium metabolism in heart cells	Schwartz	1990
3,500,000	Pathological leakage in blood-brain barrier	Salford	2003
3,000,000	Affected neurological system, brain function	Vorobyov	2010
2,200,000	Reduced density and number of young in bird populations	Balmori	2009
2,000,000	Decreased survival in children with leukemia	Hocking	2000
2,000,000	2x rate of leukemia in children	Hocking	1996
1,700,000	Irreversible infertility (in mice at 5 generations)	Magras	1997
1,600,000	Negatively affected memory, attention, motor function of schoolchildren	Kolodynski	1996
1,600,000	Reduced memory function	Nittby	2007
1,300,000	Decreased cognition, well-being	Zwamborn	2003
<b>1,000,000</b>	<b>10 feet from a WiFi Router</b>		
<b>1,000,000</b>	<b>100 yards from a cell tower</b>		
700,000	Sperm head abnormalities in mice	Otitoloju	2010
638,000	Decreased cognitive function	Papageorgiou	2011
600,000	Slowing of heart, change in EEG	Serkyuk	1980
500,000	Adverse neurological, cardiovascular symptoms and cancer risk	Khurana	2010
500,000	10x increased risk of cancer in women, with short latency	Wolf	2004
<b>400,000</b>	<b>10 feet from a WiFi enabled Laptop</b>		
300,000	Headaches, memory changes, depressive symptoms, sleeping problems	Rassoul et al.	2000
100,000	Behavioral disruption	Navakatikan	1994
100,000	Significant increase in breast cancer and brain tumours.	Oberfeld	2008
100,000	Fatigue, headaches, sleeping problems	Navarro	2003
100,000	Headaches, concentration problems, sleeping problems	Hutter	2006
50,000	Headaches, fatigue, cardiovascular issues	Kundi	2009
50,000	In adults ( 30-60 ), chronic exposure caused sleep disturbances	Mohler	2010
30,000	In children and adolescents ( 8-17 yrs ) behavioral problems in school	Thomas	2010
30,000	In children and adolescents ( 8-17 yrs ) headaches, irritation, concentration difficulties in school	Heinrich	2010
20,000	Sleep disorders, abnormal blood pressure, nervousness, fatigue, joint pain, digestive disorders, fewer schoolchildren promoted	Altpeter	1995
6,000	Fatigue, depressive tendency, sleeping disorders, concentration difficulties, cardiovascular problems	Oberfeld	2004
5,000	Decreased cell proliferation	Velizarov	1999
3,000	Significantly reduced sperm count	Behari	2006
<b>1</b>	<b>*** Low Radiation Natural Environments ***</b>		

wifi\_compared\_to\_research\_nano.pdf

This chart compares the studies to other wireless devices.

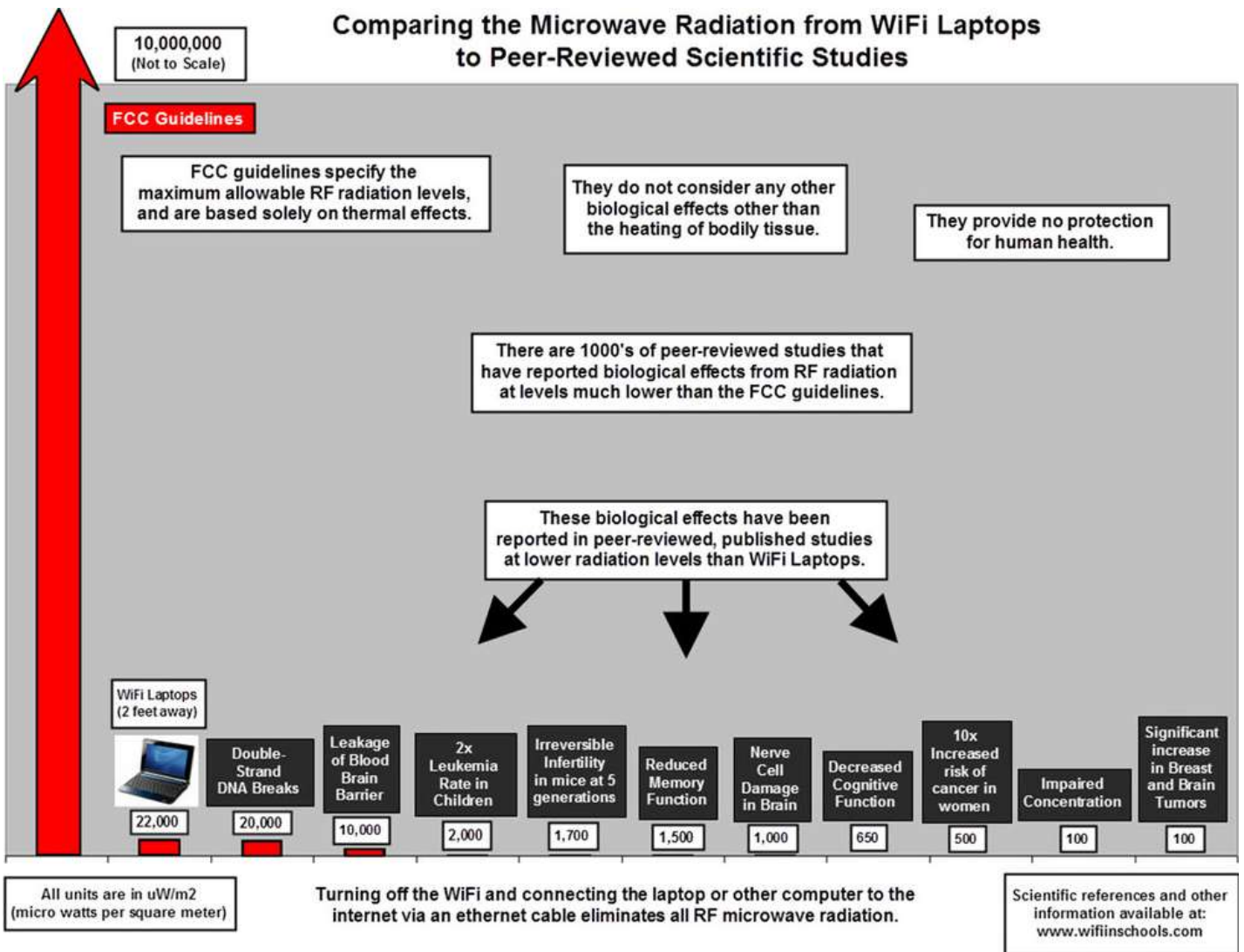
## A Comparison of Wireless Device Emissions to the Scientific Research

<b>Radiation Exposure</b>		<b>Researcher</b>	<b>Year</b>
10,000,000,000	FCC Exposure Guidelines, 30 min public exposure, based solely on thermal effects	FCC	1986
500,000,000	<b>2 feet from a microwave oven</b>		
90,000,000	<b>iPads and WiFi Laptops- Direct Body Contact</b>		
60,000,000	DNA damage in cells	Phillips	1998
50,000,000	Impaired nervous system activity	Dumansky	1974
40,000,000	Slowed memory/altered immune function in children	Chiang	1989
40,000,000	Changes in hippocampus, part of brain memory, learning	Tattersall	2001
30,000,000	Irreversible infertility (in mice at 3 generations)	Magras	1997
35,000,000	<b>1 foot from a WiFi enabled Laptop</b>	Khalid	2011
20,000,000	Double-strand DNA damage	Kesari	2008
13,000,000	2x rate of leukemia in adults	Dolk	1997
12,500,000	Affected kidney development	Pyrpasopoulou	2004
10,000,000	Headaches, dizziness, irritability, fatigue, weakness, insomnia, chest pain, difficulty breathing, indigestion	Simonenko	1998
10,000,000	Affected functions of the immune system	Novoselova	1999
8,000,000	Emotional behavior changes (free-radicals)	Akoev	2002
6,000,000	Change in calcium ion efflux from brain tissue	Dutta	1986
5,000,000	<b>10 feet from a wireless smart meter</b>	Tell	2013
5,000,000	Decreased sperm motility and increased DNA fragmentation	Avendano	2010
3,500,000	Pathological leakage in blood-brain barrier	Salford	2003
3,000,000	Affected neurological system, brain function	Vorobyov	2010
2,200,000	Reduced density and number of young in bird populations	Balmori	2009
2,000,000	Decreased survival in children with leukemia	Hocking	2000
2,000,000	2x rate of leukemia in children	Hocking	1996
1,700,000	Irreversible infertility (in mice at 5 generations)	Magras	1997
1,600,000	Negatively affected memory, attention, motor function of schoolchildren	Kolodynski	1996
1,500,000	Reduced memory function	Nittby	2007
1,300,000	Decreased cognition, well-being	Zwamborn	2003
1,000,000	<b>10 feet from a DECT cordless phone base unit or WiFi Router</b>		
1,000,000	<b>100 yards from a cell tower</b>		
700,000	Sperm head abnormalities in mice	Otitolaju	2010
638,000	Decreased cognitive function	Papageorgiou	2011
500,000	Adverse neurological, cardiovascular symptoms and cancer risk	Khurana	2010
500,000	10x increased risk of cancer in women, with short latency.	Wolf	2004
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6,000	Fatigue, depressive tendency, sleeping disorders, concentration difficulties, cardiovascular problems	Oberfeld	2004
5,000	Decreased cell proliferation	Velizarov	1999
3,000	Significantly reduced sperm count	Behari	2006
1	<b>*** Low Radiation Natural Environments ***</b>		

wireless\_compared\_to\_studies\_nano\_web.pdf



## Comparing the Microwave Radiation from WiFi Laptops to Peer-Reviewed Scientific Studies



## Cell Phone Towers

WiFi radiation is very similar to that of cell phone towers, in that it is chronic full body exposure to microwave radiation, although levels of radiation in WiFi classrooms are actually higher than next to a cell phone tower.

## Radio and Cell Tower Epidemiological Studies

### Cell Tower Studies

- Dode (2011): Increased risk of mortality due to malignant tumors. (600 meters or less)
- Eger (2004): 3x the risk of cancer after 5 yrs of exposure. (400 meters or less)
- Hutter (2006): Increased risk of headaches, tumors, loss of appetite, exhaustion, and difficulty concentrating.
- Oberfeld (2004): Increased risk of fatigue, irritability, headaches, nausea, loss of appetite, sleeping disorders, depressive tendency, difficulty concentrating, skin disorders, and cardiovascular problems. (400 meters or less)
- Santini (2002): Increased irritability, depressive tendencies, difficulties concentrating, loss of memory, dizziness, sleep disruption, skin problems. (200 meters or less)
- Wolf (2004): 4x increased risk of cancer overall. 10x risk for females. Short latency of 2 years.

Here is a document that shows several radio and cell tower studies, complete with abstracts. [epidemiological\\_studies.pdf](#)

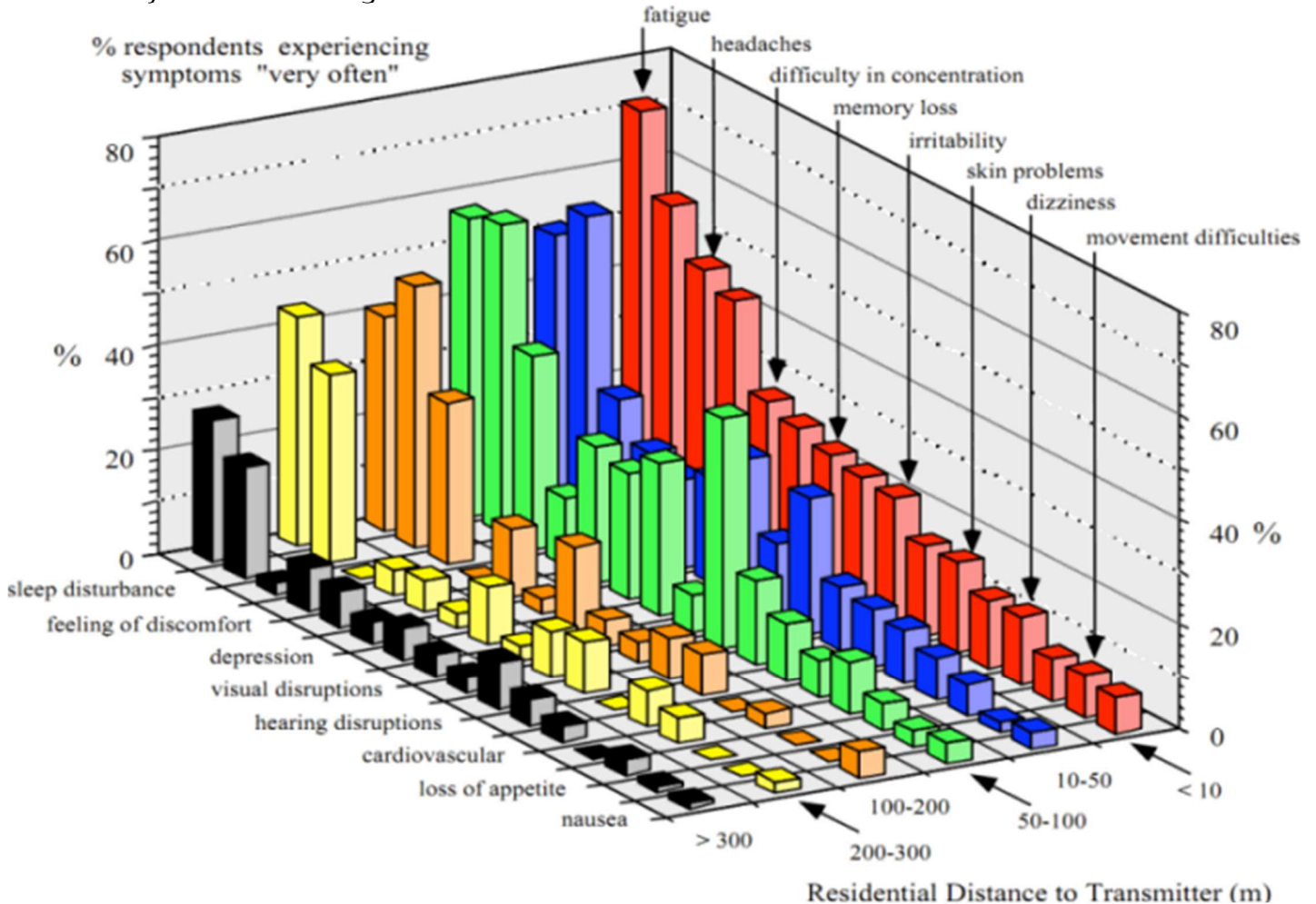
### Subjective Symptoms

In the following chart, from a cell tower study by Santini, 2001, you can see that the closer to the transmitter, the higher the % of respondents

experiencing symptoms. Red represents a distance of less than 10 meters away, and fatigue was experienced by 70% of those studied, followed by headaches, difficulty concentrating, and memory loss. Black represents those that were over 300 meters away, and as a comparison, only 25% experienced fatigue.

For some new to this area of study, it may appear as if these wide ranging symptoms are too varied to be true. Further investigation into archived research will show that these issues have been reported for decades from studies all around the world. In fact, the Russians used to call it "Microwave Illness" back in the 1960's and 1970's.

Our modern reality of using cell phones, bluetooth, and all kinds of other devices doesn't take into consideration that we are placing microwave transmitters next to our heads, on our bodies, and near our reproductive organs. More than this, we are unknowingly filling our homes, towns, cities and countryside with a smog of microwave radiation.



New study confirms previous cell tower results:

Chronic microwave radiation exposure causes adverse health effects

2013\_subjective\_symptoms\_related\_to\_gsm\_radiation\_from\_mobile\_phone\_base\_stations1.pdf

## Scientific Resources

1. [Public Health Implications of Wireless Technologies. Here.](#)
  2. The Seletun Panel on Electromagnetic Field Health Risks Report. 2010. [Here](#)
  3. View the overall lists of studies. [www.powerwatch.org.uk](http://www.powerwatch.org.uk) is one, another is [Dr. Henry Lai's bibliography](#), and here is a list of older, declassified military studies: [\(U.S. Naval Research - large document, takes time to load\)](#).
  4. View this excellent overview of adverse public health trends since 1996 [document](#) by Sarah Benson.
  5. One of the best resources is the [BioInitiative Report](#). First published in 2007, and then updated in 2012, this report reviews over 3800 studies, most of which reported biological effects. It concluded significant steps need to be taken to protect the public from rapidly increasing levels of electromagnetic radiation.
  6. Read [expert testimony](#)
- To contact us, email: [info@wifiinschools.com](mailto:info@wifiinschools.com)