

Mobile phone and our health

-2-



Cihan University
College of Engineering
Communication & Computers
Engineering Department
Mr. Adil Hussein Mohammed

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How many devices can a smartphone replace?

1. Alarm clock:

2. GPS:

3. Digital camera:

4. Personal planner:

5. Landline phone:

6. MP3 player:

7. Video camera:

8. Newspaper

9. Radio:

10. Gaming device:

11. Books:

12. Flash light

13. DVD player:

14. Desktop/Laptop computer

15. Internet service at home:

16. Home Network for multi-media



Mobile Phone affects on Our Health

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graph TD; A[Mobile Phone affects on Our Health] --> B[Radiation From Cell Phone System (SAR level)]; A --> C[Bad usage in using mobile phone];
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**Radiation From Cell
Phone System
(SAR level)**

**Bad usage in using mobile
phone**

Specific Absorption Rate (SAR)

SAR is a measure of the amount of RF or EMF energy that is absorbed by the tissues in the human body.

It indicates the average rate at which energy is absorbed for each kilogram of tissue (watts per kg).

This measurement is used to determine whether a mobile



**DANGEROUS RADIATION
FROM CELLPHONE /
MOBILE PHONE TOWER**



Why is EMF a pollutant?

ELECTROMAGNETIC POLLUTION (OR EMF POLLUTION) IS A TERM GIVEN TO ALL THE MAN-MADE ELECTROMAGNETIC FIELDS (EMFS) OF VARIOUS FREQUENCIES, WHICH FILL OUR HOMES, WORKPLACES AND PUBLIC SPACES.

WHEN WE CALL SOMETHING IN OUR ENVIRONMENT A POLLUTANT, WE ARE IMPLYING THAT IT IS SOMEHOW **HARMFUL TO NATURE AND**





Table : SAR Limits for head, neck and trunk

Guideline	SAR limit - Head, Neck and Trunk
Health Canada Safety Code	1.6 W/kg averaged over 1 gram of tissue*
Europe	2.0 W/kg average over any 10 grams of tissue**
Australia	1.6 W/kg averaged over 1 gram of tissue
US	1.6 W/kg averaged over 1 gram of tissue
India	1.6 W/kg averaged over 1 gram of tissue
ICNIRP International Commission on Non-Ionizing Radiation Protection (ICNIRP)	2.0 W/kg average over any 10 grams of tissue**

Exposure to high doses of radiation over a short period of time





This photo is an example of radiation burns injury suffered by a person who had exposure to radiation higher than the SAR limit of hand.



MREM:
measurement
Roentgen
Equivalent Man
Is unit to measure
the dose of
radiation

Hair Loss

The higher the dose of radiation, the faster hair loss occurs. If the radiation dose does not exceed 300,000 mrem, it is possible that hair will grow back.



- ▶ Children under 10 should never use a cell phone except in an emergency, **children much more vulnerable**



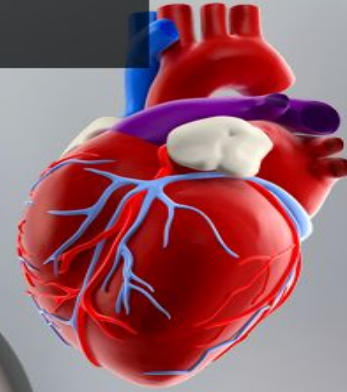
Central Nervous System

EEG Altered
Cognitive Function Altered
Melatonin Secretion Altered



Heart

Heart Rate
Blood Pressure



Other Symptoms

Fatigue
Burning near ear
Headache
Numbness/Tingling
Concentration



Male Reproductive System

Sperm Mobility
Viability
Morphology
OS
DNA??

Mobile Phone And Our Health Part -2-



Bad Usage In Using Mobile Phone

Introduction

- ▶ There is no doubt that our technology has evolved dramatically compared to how it was in the 19th century. Given all the advancements we have seen in recent history, we seem to be enjoying the luxury of having smartphones the most.
- ▶ Smartphones have changed how we live. We now enjoy the liberty of connecting to the world as we carry our smartphones in our pockets wherever we go.



Nomophobia

is a proposed name for the phobia of being out of cellular phone contact. It has been considered as a symptom or syndrome of problematic digital media use in mental health,



- ▶ But, as our technology improves the way we live, our health may be deteriorating. Here are some disturbing facts about how your smartphone affects your brain and body health without your knowledge.



1. Smartphone Use Demotes Our Social Interactions

- ▶ The use of smartphones effectively kills your mood and pace, especially if you're in a group setting. It steals away your attention from the people around you as well as your surroundings.



- ▶ It diminishes your cognitive ability in connecting and socializing with other people. This often results in further withdrawing from society and increasing the likelihood of being a “shut-in.”

2- Lifestyle

- ▶ This of course means that our lives are increasingly sedentary, which is a major contributing factor to Ireland's growing obesity epidemic. The World Health Organization has warned that by 2030, as much as 89% of Irish men and 85% of Irish women could be obese. This sedentary **lifestyle also affects people's physical strength, energy levels and mood.** Furthermore, the number of people self-diagnosing online means that fewer people are getting accurate medical advice regularly. This is something that is quite likely to pose a big problem for some time down the road if it is not addressed today.



3-Sleep Patterns

- ▶ That blue-violet light from our smartphone screens and tablet screens could also be wreaking havoc on our sleep patterns. “Over the course of a day, we have a sleep drive that builds, much like a hunger drive, but it doesn't go into effect unless you have the right level of [the hormone] melatonin





www.facebook.com/AdisEaseFreeWorld

“Radiation that emits from cell phones increases risk for Brain cancers”

- CNN news

But this is not the only thing you have to be worried about using cell phones, New researches say Talking on cell phones just before going to bed,

- *delays sleeping onset***
- *shortens sleep duration***
- *causes headaches and confusion***
- *causes Depression, ADHD***



4-Neck Pain



Text Neck Syndrome

Assessment of stresses in the cervical spine caused by posture and position of the head.
An increase in forward head position increases the weight on the cervical spine.

0°	15°	30°	45°	60°
12lb	27lb	40lb	49lb	60lb

When the head is brought forward and the neck bends, the weight on the cervical spine increases.

Assessment of stresses in the cervical spine caused by posture and position of the head.
Harting P.R.

Forward Head Posture

Can cause permanent damage and result in:

- Headaches
- Back Pain
- Muscle Damage
- Nerve Damage
- Spinal Disc Herniation
- Spinal Disc Compression
- Decrease in Spinal Curve
- Gastrointestinal Problems
- Onset of Early Arthritis
- Loss of Lung Volume Capacity



45 degrees
49lbs

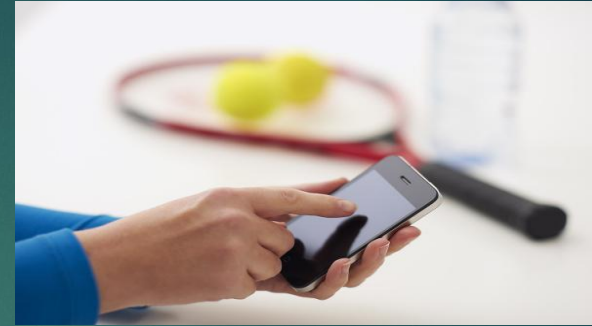
60 degrees
60lbs

75 degrees
~70lbs

0lbs



5- Weight



Americans top the list, with 33.8 percent of adults obese, but kids are catching up too, with [a strong correlation](#) between screen time and childhood obesity -- especially for children who are already overweight.



6-Eyes

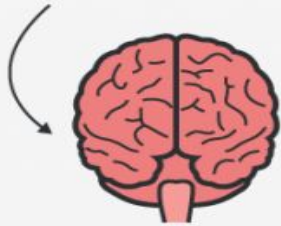
20X20x20 rule

- ▶ A 2014 study carried out by independent opticians found that a particular wavelength of light emitted by phone and tablet screens is “potentially hazardous and toxic to the back of the eye”.
- ▶ According to the BBC, optician Andy Hepworth said that tests had found over-exposure to blue-violet light may put people at greater risk for macular degeneration, which can cause blindness.
- ▶ Eye strain can come about as a result of over-using the muscles of the eye when focusing, resulting in headaches, while the intense focus we give to small objects such as smartphones playing YouTube videos may mean we blink less, resulting in dry eye.

How exposure to **blue light** affects your brain and body

BY DISRUPTING MELATONIN, **SMARTPHONE LIGHT** RUINS SLEEP SCHEDULES. THIS LEADS TO ALL KINDS OF **HEALTH PROBLEMS**:

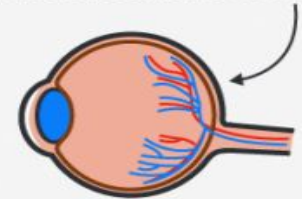
The disruption to your sleep schedule might leave you distracted and impair your **MEMORY** the next day.



A poor night's sleep caused by smartphone light can make it **HARDER TO LEARN**.



There's some evidence that blue light could damage our vision by harming the **RETINA** over time — though more research is needed.



Researchers are investigating whether or not blue light could lead to **CATARACTS**.



7. Carpal Tunnel Syndrome

One of the most immediately obvious consequences of a smartphone is the effect it has on our hands. Even in the early years, we can see that smartphones are completely changing the way we use our hands and arms. Up until a few years ago, our index fingers have always been the dominant digit, but thanks to our reliance on smartphones, our thumbs have taken on that title. This may not sound like much, but it is a huge shift in human behavior, and one that took place in an astonishingly short amount of time



8-Ears and headphone sets

Harmful Effects of Health on Using Headphones



Ear infections



Pain in the ears-



Brain damage



Dizziness



Increased psychological stress and anxiety

9- Smartphone Use Decreases Your Memory

Cell Phones increase memory loss

- Cell phone radiation causes memory loss, where as it helps people to forget images faster than usual.

A study was made where they took 48 participants, exposed some to cell phone radiation and others not. They showed them an image and they asked them what they saw. Those who were exposed to cell phone radiation had forgotten but those who weren't, didn't.



10- Smartphone Use Weakens Your Inductive Reasoning

- ▶ Today, it is incredibly convenient to just Google the things we don't know and get the answer in just a click. But this over-reliance on Google and on the internet to solve our problems and questions backfires on us.

11- Your Physical Health

- ▶ Mental and psychological health are not the only things languishing because of our usage of smartphones — our physical health is deteriorating too.
- ▶ The convenience the smartphone provides eliminates some of the physical activities we do every day and converts them into one of our destructive “lazy” or “procrastinating” moments.



NOMOPHOBIA

ON THE RISE

66%

of the population suffers from nomophobia

Just four years ago, only 53% of people said they were afraid of losing or being without their phones



77%
of people ages 18-24 are nomophobic, compared to only 68% of people ages 25-34



70%

of women have mobile phone separation anxiety, compared to 61% of men



47%
of men are likely to have two mobile phones, compared to 36% of women



66%

of people sleep next to their smartphones and 20% would rather go shoeless for a week than temporarily release their phones



no-mo(bile) phone-phobia

1. The fear of being out of cell phone signal range. 2. The anxiety relating to the sudden loss of a cellular connection.

5ft.

72%
of people report being within five feet of their smartphones the majority of the time



Sources

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CELL PHONE HEALTH HAZARDS

Headaches

Impaired immune system

Tumors of hearing nerve

Break in blood brain barrier

Reduced melatonin

Genetic damage

Interference with pacemakers

Melanoma of the eye

Pressure or tingling in the head

Memory loss

Brain tumors

DNA alteration or damage

Changed brain electrical activity

Cardiovascular stress

Eye problems

Fatigue

Studies have shown exposure to cell phone radiation is associated with a wide range of health problems.

REASONS WHY CELLPHONES ARE **BAD** FOR YOUR HEALTH



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