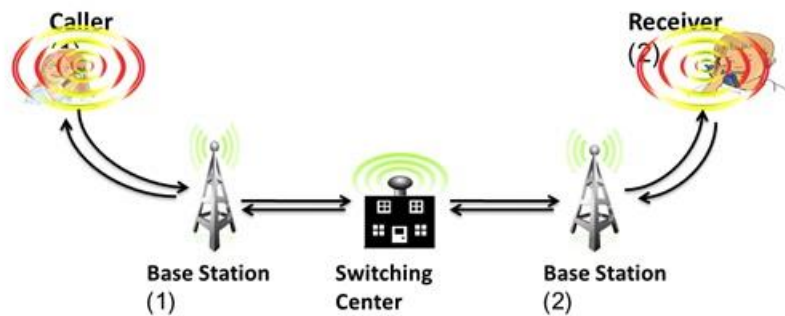


# Cell Phone Safety

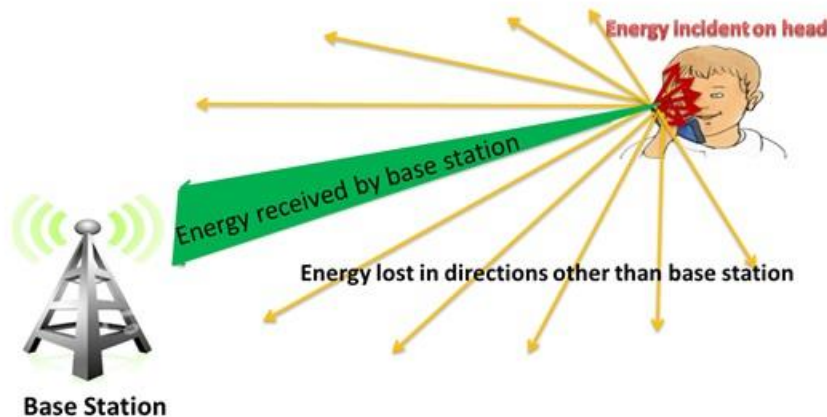
## Communication connection between two mobile

1. When the caller starts the call the electromagnetic signal transmitted from his mobile antenna is received by the closest base station "BS".
2. Then the signal is transmitted from the BS to the switching center "SC" in order to authenticate the caller and receiver IDs.
3. The SC will transmit the signal to the BS nearest to the receiver side
4. Next the BS transmits electromagnetic signals which will be received by the receiver's mobile antenna.
5. Finally after the receiver opens the line the two-way communication connection is established between the two persons.



## How is radiation produced by a cell phone?

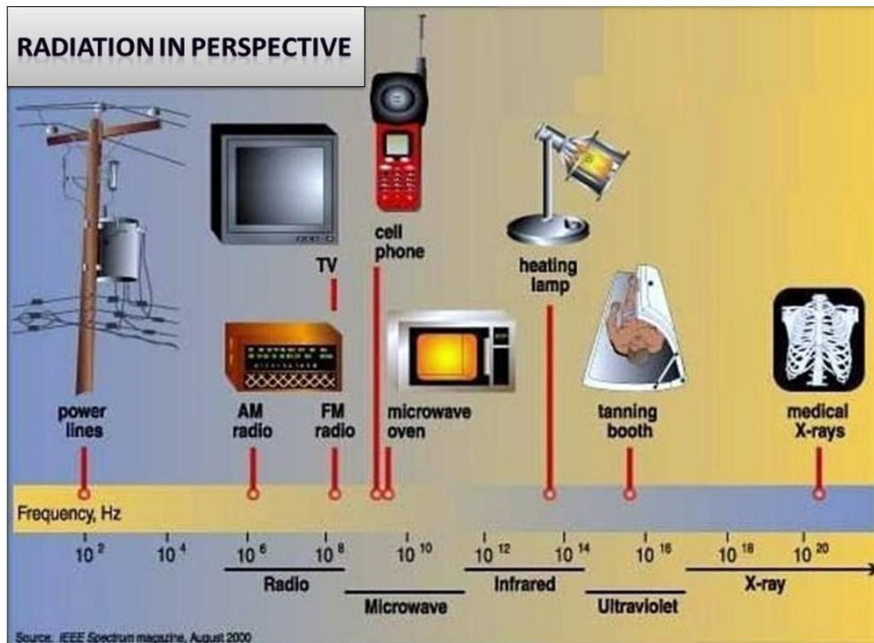
- Cell phone radiation is transmitted by the cell phone antenna in all directions
- Most of the energy is lost in space
- Part of the energy is received by base stations
- Part of the energy is incident on human head





## Electromagnetic signal transmitted from cell phone antenna

The increased use of cell phones has brought about serious concerns regarding the probable health hazards. This is because mobile phones use electromagnetic radiation in the microwave range.



## Maximum Power Transmit

- The Federal Communications Commission sets specific absorption rate "SAR" standards for acceptable power radiation for cell phones; it must not exceed 1.6 W/KG
- The lower the SAR the better the phone, from a potential health hazard point of view

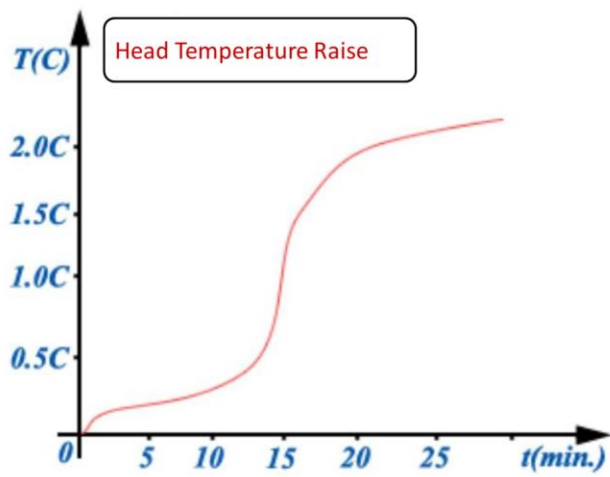
### There are three ways to find SAR values

1. From the user manual of your mobile phone.
2. Visit mobile manufacturers' forum or website and select your mobile phone model  
<http://www.mmfa.info/public/sar.cfm>
3. Enter Federal Communications Commission website and write your mobile FCC ID Number in the FCC ID <http://www.fcc.gov/oet/ea/fccid/>



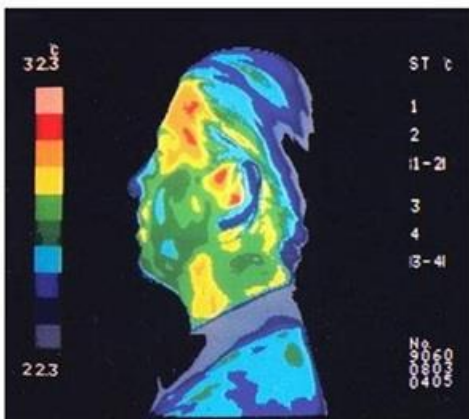


## Thermal Effect of Cell Phones

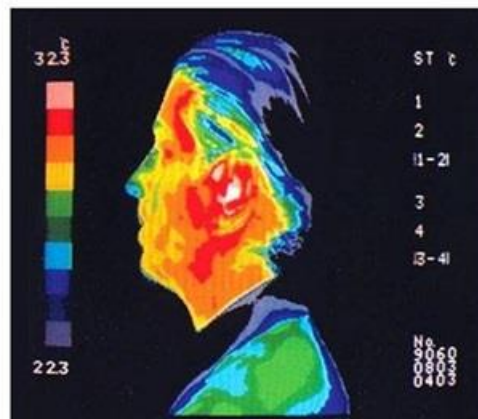


## Thermal Effects

Heat generated on the face by 15 minutes of cell phone use due to electromagnetic radiation



Before using mobile phone

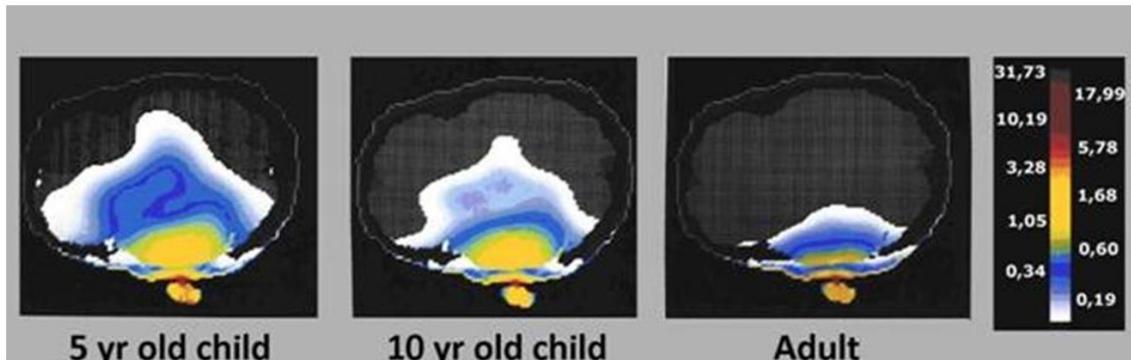


After using 15 minute mobile phone



# Can Cell Phones Cause Brain Tumors?

## Radiation Penetration in the head of an adult, ten-year and five-year old



When radiation hits the head, it penetrates the skull. The pictures above are the result of an experiment show how radiation penetrates the skull of an adult (25%), 10 year old (50%) and a 5 year old (75%). The younger the child the deeper the penetration due to the fact their skulls are thinner and their brains contain more fluid than adults'. Radio frequencies travel through children's brains much more easily and therefore increase the risk of cancer.

## The Impact of Cell Phone Radiations on Humans



## Consider the following when using your mobile phone

It is not only the choice of phone, but how you use it that is important when you want to control the amount of radiation you are exposed to. Here you will find a few simple tips that can considerably reduce radiation and therefore also health risks.





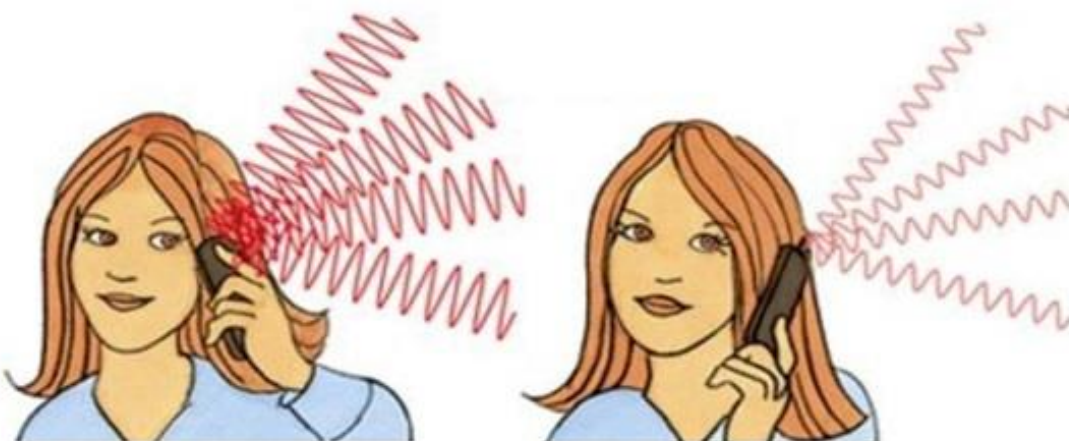
## Use a hands-free set

The further away from your body the phone is, the less radiation you are exposed to. Using a hands-free set is the easiest way to radically reduce the amount of radiation you are exposed to if you use a mobile phone.



## Hold it at the bottom

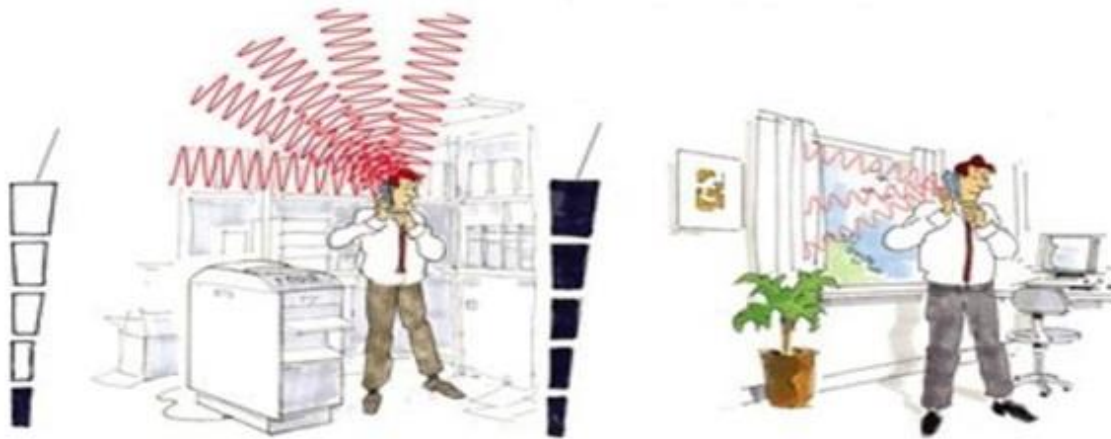
By covering large areas of the phone with your hand, you reduce its ability to send and receive signals. The phone then increases its power and transmits stronger radiation to compensate this. So hold the phone as far down as possible, so it can operate at low power.





## Get in the best position

You can see the signal reception strength in the display. When reception is good, the phone reduces power and radiation. If reception is poor, the phone uses maximum power and radiation.



## Don't talk too long and use regular phone as much as possible

The radiation you are exposed to is directly related to the time you spend talking on your phone. For longer calls it is safer and cheaper to call from a regular phone.

## Hazardous areas of use

- Don't use a mobile phone while driving a car. Stop at a safe place and talk.
- Don't use your mobile phone in places where there is a lot of electrical equipment, such as hospitals and aircraft.
- Don't bathe with your mobile phone.
- Don't let small children talk on your mobile phone for long periods. They are more susceptible than adults.



