

# **NON-IONIZING RADIATION EXPOSURE:**

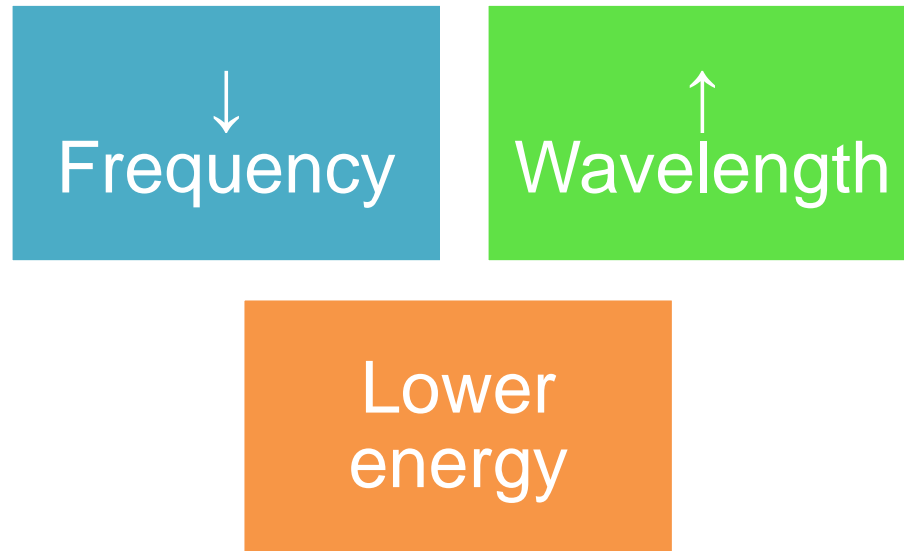
## **SHORT TERM EFFECTS**

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# 1. What is non-ionizing radiation?

(I)

- Electromagnetic radiation that cannot remove any electron from matter on which it impacts. It has some characteristics: <sup>[1]</sup>



# 1. What is non-ionizing radiation? (II)



## Electromagnetic radiations:

- Electric current
- Radio frequency
  - Radio
  - Microwave

## Optic radiations:

- Infrared
- Visible light
- Ultraviolet radiation

## 2. Short term effects: [2]

- Ocular alterations.
- Skin alterations.
- Relating to reproductive system.
- Neuropsychic alterations.
- Relating to immune system.
- Relating to cardiovascular system.
- Hormonal disorders.



## 2.1 Ocular alterations:



Cataracts



Conjunctivitis



Photoqueratitis



Ocular burns

Main responsible:  
**Ultraviolet radiation**

## 2.2 Skin alterations:

- Actinic keratosis.
- Accelerated skin ageing.
- Solar erythema.

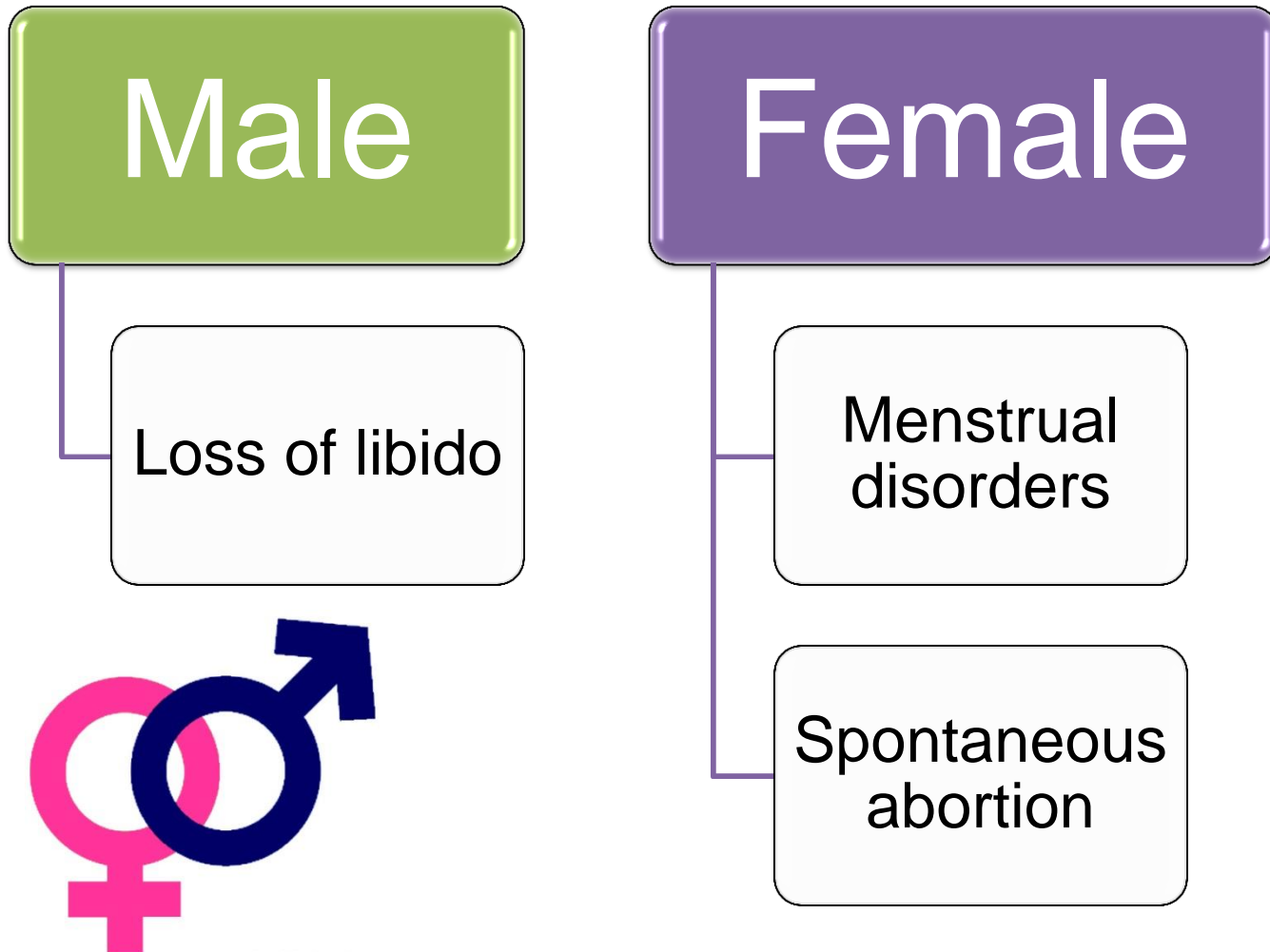


### Higher risk:

- Light skin
- A lot of solar exposure hours
- Tropical climates
- Family history
- Risk profession

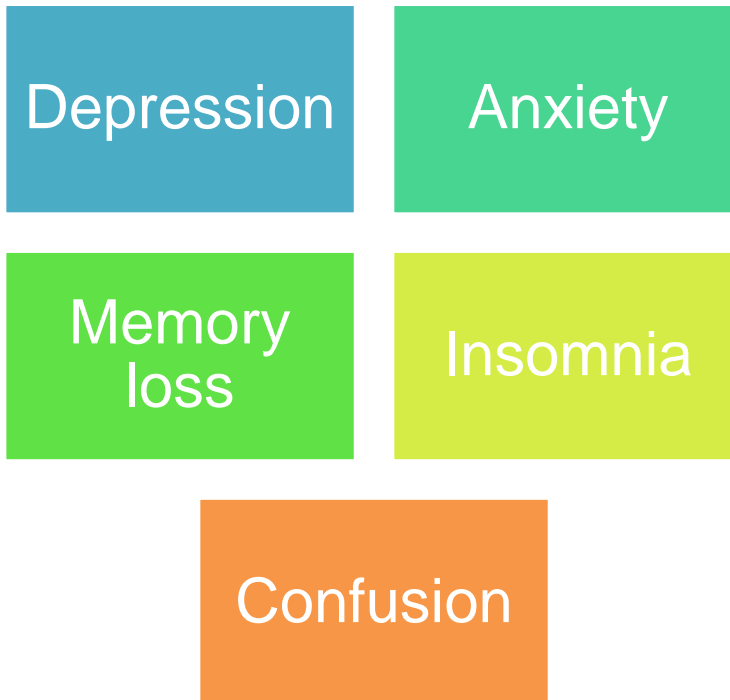
In the long term... **SKIN CANCER**

## 2.3 Relating to reproductive system:



## 2.4 Neuropsychic alterations:<sup>[3]</sup>

- Cephalea.
- Suicidal tendencies.
- Microwave syndrome:



### PEOPLE WHO HAVE A PROPENSITY TO SUFFER IT:

- Immunodeficiency disorders.
- Children.
- Elderly people.
- Sick people.



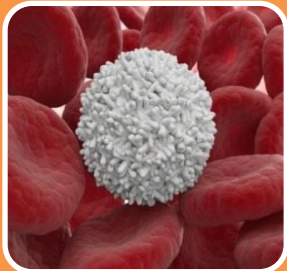
## 2.5 Relating to immune system:



Allergic reactions



Weakened immune system



Distribution and function  
alterations of white blood cells :

Even 24 hours after solar exposure

## 2.6 Relating to cardiovascular system:

Bradycardia

Repolarization disorders

Heart attacks

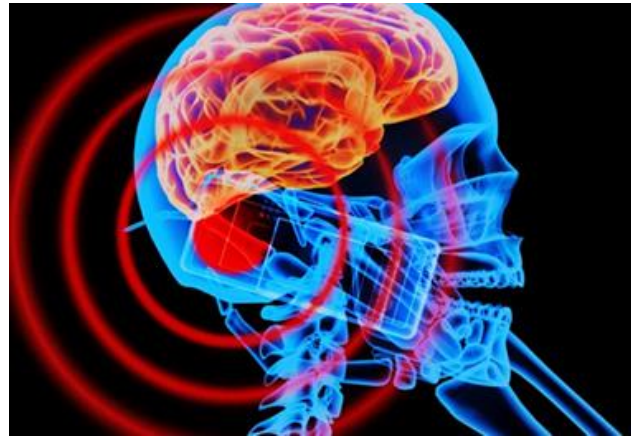


## 2.7 Hormonal disorders:

Alteration in  
melatonin  
serum level

Dysfunction of  
neurosecretory  
cells

Sex hormone  
disorders



**NOTE: There is no scientific evidence**

# References:

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2. Gerrero J, Pérez JL. *Las radiaciones ionizantes y su efecto sobre la salud humana*. *Revista Cubana de Medicina Militar*. Volumen 35 No. 3 Julio. 2006. Available in:  
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3. Hossman KA, Herman DM. *Effect of electromagnetic radiation of mobile phones on the central nervous system*. *Bioelectromagnetics*. 2003;24(1):49-62. Available in:  
<http://www.ncbi.nlm.nih.gov/pubmed/12483665>