

## How Coronavirus Attacks

How the virus enter, into our body and its effects in stages





## COVID-19

The Coronavirus is a particle-virus that their composition is an envelope of (<u>Lipids</u> and <u>Proteins</u>) that cover all genetic material



## Infection 🔁

When the person coughs or sneezes, it generates an expansion of microdroplets that carry the virus, if the person has placed their hands in front of them when coughing or sneezing, it contaminates their hands which can later contaminate their eyes, mouth, and nose and then infect objects.

The Coronavirus, it can only be reproduced by entering a living cell The virus that contains (Lipids and Proteins with own Genetic Material) enters the trachea and passes into the lungs, affecting these

## Lungs under attack

Once inside the body, the attack begins on the lungs which contain millions of cells called (**Pneumocytes**) in their (**Alveoli**) that are responsible for the exchange – of gases so that we can breathe



The Coronavirus adheres to these receptors of pneumocytes allowing its genetic material to enter, and viral replication.

## Expansion

Between 5 to 10 days later, millions of cells in the body, mainly the respiratory system, are infected by the Coronavirus.

As immune cells enter the lungs to fight the virus, corona infects some of them and creates confusion.

- Cells communicate through cytokine proteins (called messengers), then the immune cells fight against the invading Coronavirus, depleting defense resources and causing severe damage to the lungs.

#### Two of these cells that defend us are:

#### 1.- Neutrophils

(Great for killing microorganisms and also ours cells, they bombard enzymes and destroy both friends and foes.)

#### 2.- T Lymphocytes

(They are in charged of destroying infected cells)

The more immune cells that reach the affected area, the more damage they cause including these same defender cells

This Photo by Unknown Author is licensed under <u>CC BY-SA</u>

# The immune System is activated 5





2



## Recovery

In most cases, the immune system slowly regains control, with relatively mild symptoms.

Patients may be left with some scar, known as 11, fibrosis, in the lungs.

It kills the infected cells, intercepts the virus that tries to infect new ones, and cleans the affected area.

## **Serious Cases**

Millions of cells die, and the protective lining of the lungs disappears.

The alveoli, through which you breathe, are infected by bacteria.

Patients develop pneumonia, breathing becomes difficult, and patients need respirators to survive.

The immune system mats infected cells, affected people require respirators to survive. As the bacteria multiply, the patient's clinics deteriorate.

In some cases the bacteria enter the bloodstream, the person goes into shock, and dies.





Centro Cardiológico y Pediátrico Valencia

Urb. La Viña, Calle Carabobo	
(Policlinico Valencia) Torre C I Consultorio No. 311	
Postal Code 2001 Valencia, Edo. Carabobo	
Valencia, Edo. Carabobo	

www.cardiopedval.com
+58 (424) - 308 8808
+58 (416) - 942 7424

República Bolivariana de Venezuela

