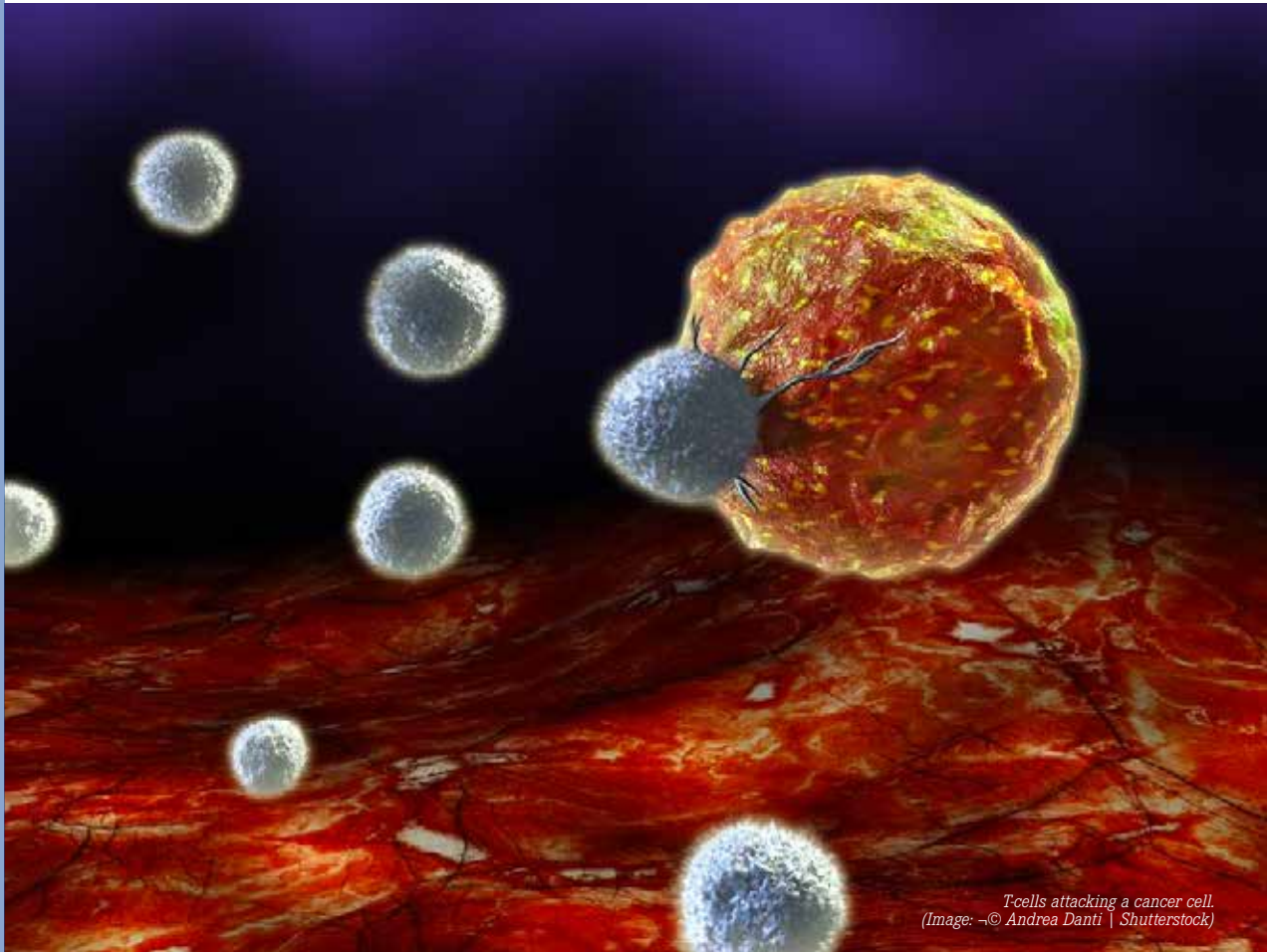




*In this turbulent period of coronavirus virus outbreak, we want our esteemed customers to not panic and practice good self-hygiene including frequent hands washing and avoiding touching any of the body orifices like ears, eyes, nose, mouth, etc, with unclean hands. Statistics have shown that most fatalities that have resulted from the Covid-19 outbreak are in people with compromised immune system.*

*We at Lyfe Medical Wellness remain your partner to help enhance your health especially in this outbreak situation.*

*Be Strong, Be Healthy, Be Safe  
Lyfe Medical Service team*



The role of the immune system

- a collection of structures and processes within the body
- is to protect against disease or other potentially damaging foreign bodies.

When functioning properly, the immune system identifies a variety of threats, including viruses, bacteria and parasites, and distinguishes them from the body's own healthy tissue.

## Innate VS Adaptive Immunity

The immune system can be broadly sorted into categories: innate immunity and adaptive immunity.

Innate immunity is the immune system you're born with, and mainly consists of barriers on and in the body that keep foreign threats out. Components of innate immunity include skin, stomach acid, enzymes found in tears and skin oils, mucus and the cough reflex. There are also chemical components of innate immunity, including substances called interferon and interleukin-1.

Innate immunity is non-specific, meaning it doesn't protect against any specific threats.

Adaptive, or acquired, immunity targets specific threats to the body. Adaptive immunity is more complex than innate immunity. In adaptive immunity, the threat must be processed and recognized by the body, and then the immune system creates antibodies specifically designed to the threat. After the threat is neutralized, the adaptive immune system "remembers" it, which makes future responses to the same germ more efficient.

## Major components

### **Lymph nodes:**

Small, bean-shaped structures that produce and store cells that fight infection and disease and are part of the lymphatic system. Lymph nodes also contain lymph, the clear fluid that carries those cells to different parts of the body. When the body is fighting infection, lymph nodes can become enlarged and feel sore.

### **Spleen:**

The largest lymphatic organ in the body, which is on your left side, under your ribs and above your stomach, contains white blood cells that fight infection or disease, the spleen also helps control the amount of blood in the body and disposes of old or damaged blood cells.

### **Bone marrow:**

The yellow tissue in the center of the bones produces white blood cells. This spongy tissue inside some bones, such as the hip and thigh bones, contains immature cells, called stem cells.

### **Lymphocytes:**

These small white blood cells play a large role in defending the body against disease. The two types of lymphocytes are B-cells, which make antibodies that attack bacteria and toxins, and T-cells, which help destroy infected or cancerous cells. Killer T-cells are a subgroup of T-cells that kill cells that are infected with viruses and other pathogens or are otherwise damaged. Helper T-cells help determine which immune responses the body makes to a particular pathogen.

### **Thymus:**

This small organ is where T-cells mature. This often-overlooked part of the immune system, which is situated beneath the breastbone (and is shaped like a thyme leaf, hence the name), can trigger or maintain the production of antibodies that can result in muscle weakness. Interestingly, the thymus is somewhat large in infants, grows until puberty, then starts to slowly shrink and become

### **Leukocytes:**

These disease-fighting white blood cells identify and eliminate pathogens and are the second arm of the innate immune system. A high white blood cell count is referred to as leukocytosis. The innate leukocytes include phagocytes (macrophages, neutrophils and dendritic cells), mast cells, eosinophils and basophils.

## Vitamin C – A vital nutrient for health

Vitamins including vitamin C, are organic compounds. An organic compound is one that exists in living things and contains the elements carbon and oxygen. Vitamin C is water soluble, and the body does not store it.

Vitamin C plays an important role in a number of bodily functions including the production of *collagen*, L-carnitine, and some neurotransmitters. It helps metabolize proteins and its *antioxidant* activity may reduce the risk of some *cancers*.

Collagen, which vitamin C helps produce, is the main component of connective tissue and the most abundant protein in mammals. Between 1 and 2% of muscle tissue is collagen. It is a vital component in fibrous tissues such as:

- *tendons*
- *ligaments*
- *skin*
- *cornea*
- *cartilage*
- *bones*
- *the gut*
- *blood vessels*



Fortunately, eating vitamin C-rich foods like citrus fruits can prevent scurvy. However, if you want optimum health, you'll have to do more than simply eat the right foods and take vitamin C supplements.

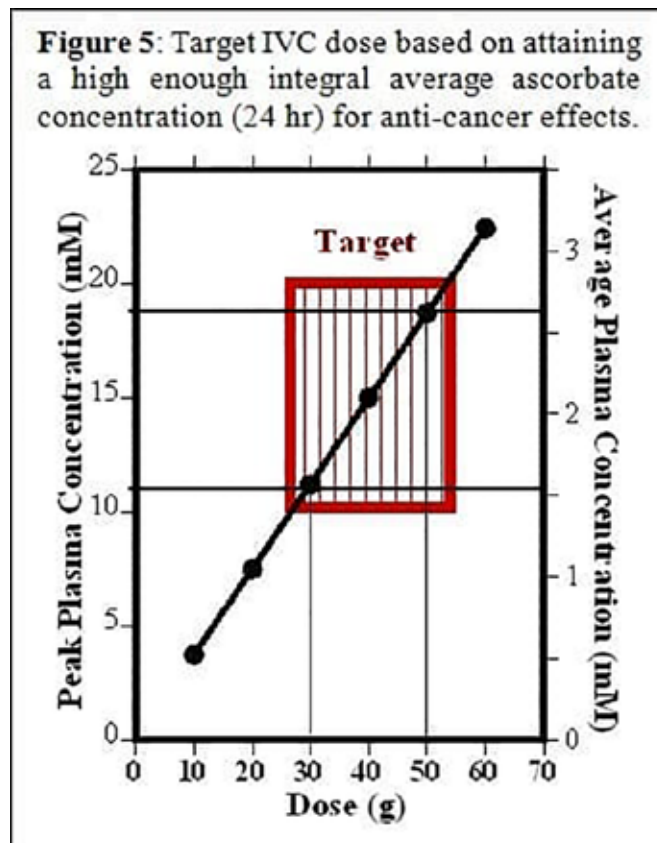
As it turns out, less than 20 percent of the vitamin C we consume (in food or supplement form) is absorbed by our bodies. The better choice is to use IV vitamin C, which ensures 100 percent bioavailability.

This way you can support your immune system, protect your heart and brain, maintain healthy blood pressure and cholesterol, promote healthy detoxification, support blood sugar levels, and improve the look of your skin - all with IV vitamin C.

High-dose IV vitamin C is particularly helpful if you need an energy boost due to fatigue or stress, are looking to strengthen your immune system, want to undo the ravages of too much sun (or even work to prevent sun damage from the inside out), and even ease the side effects of chemo and radiation.

Vitamin C therapeutic level Gram/day

- Increase inflammatory response (2.5-20 mM)
- H<sub>2</sub>O<sub>2</sub> Cytotoxic
- Dose dependent effect
- a concentration of 2.5mM was able to eliminate 90% of the virus present (not virus specific)
- and a 20 mM (350-400 mg/dL) solution completely stopped the replication of the virus.



Lyfe's Immune Booster IV are formula contain high does vitamin C which could be another good boosting option to ensure you will stay fit and strong over this COVID 19 outbreak.

## Immune Booster

*Perfect for a compromised immune system, designed to strengthen and enhance.*

This formula contains high dose vitamin C, a substance which has been scientifically proven to reduce the length of colds and fevers. Our high-dose vitamin IV drip delivers the optimal amount to limit your discomfort from viral or upper respiratory infections. Our formula also is an effective weapon in immune functionality; strengthening the immune cells and assisting in stopping the spread of cancer cells.

## Advance Immune Booster

*Advance immune boost, promote healing & regeneration and boost brain health.*

Our advance formula consists of high dose plus vitamins and powerful amino acids which will not only benefit immune strengthening but also increase blood flow and lower blood pressure which will help reducing risk of heart disease. Its mixed amino acids plays role in preventing oxidative damage and help in regeneration as well as boost brain health by regulating Glutamate and replenishing Glutathione.



Other formulas are also available to fit individual needs.



For a powerful healing treatment, consider ozone therapy. Effective in strengthening the immune system, killing bacteria and viruses on contact, and reducing inflammation and acidity in the body, it's grown in popularity as a supportive therapy against a range of diseases, including cancer. It also provides an energy boost to your cells, at the same time as rebalancing them.

Ozone is O<sub>3</sub>, a combination gas of three oxygen atoms that together fight free radicals. At Lyfe Medical Wellness, autohemotherapy is the most popular. This is where the O<sub>3</sub> formula is delivered to your blood and then re-administered back to you. It spreads around your body, assisting in eradicating damaged or unhealthy cells.

Ozone therapy has been used in healing treatments for over 150 years, including wound healing during World War 1. You'll receive your ozone therapy in our safe and comfortable treatment rooms under the supervision of one of our experienced nurses.

Ozone therapy is a great complement to our vitamin intravenous (IV) therapies, strengthening the body before receiving the IV nutrients. Speak to us about which vitamin IV cocktails are recommended, or if you would prefer to have needle-free ozone therapy.

## What is the immune system?

The immune system protects the body from bacteria, viruses, parasites, allergens, and cancerous cells. Without the immune system, your body will be vulnerable to diseases. The most important component of the immune system is the white blood cells that are spread out across the body to detect and eliminate infections.

## NK cells' role in the immune system

Natural Killer (NK) Cells are a type of white blood cells that act as the front line of defense against invading viruses and bacteria. NK cells respond quickly to infections and are able to distinguish good cells from abnormal ones. This is why NK cells are 100 times more effective in fighting against cancer than other white blood cells.

People who have low NK cells are more likely to succumb to sickness than people with high NK cells. Their immune system is weak, inefficient, and unable to protect the body from bacteria and cancerous cells.

## Type of Immune Cells



### Granulocyte

Eat bacteria that found in injuries.



### Lymphocyte

NK, T-cell and B-cell. Patrolling police officers to monitor for abnormal cells and destroy everyday

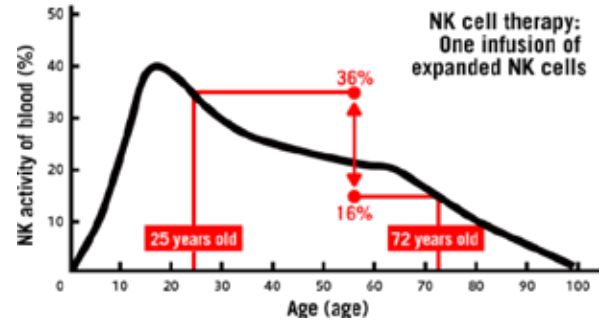
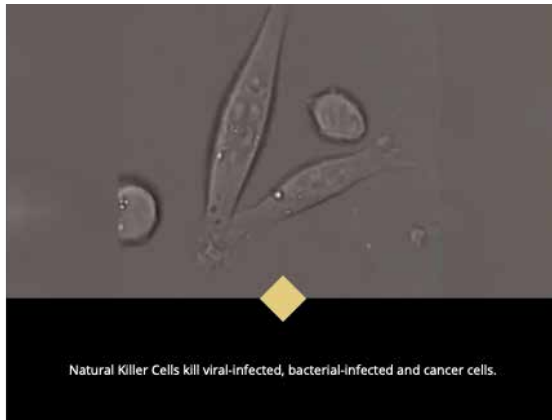


### Monocyte

Eat foreign body and present antigen on the surface of cell (Educator cell)



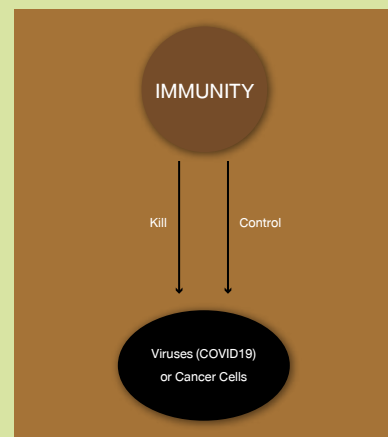
## What is natural killer (NK) cell?



1. NK cells are the most potent innate immune cells patrolling in the whole body to find and kill cancer cells or virus-infected cells.

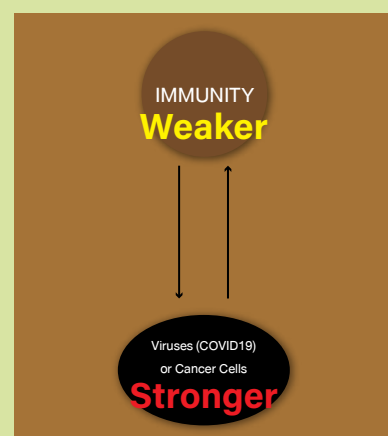
2. The killer function of NK cells declines with aging

## Importance of Immune Cells for COVID 19 PREVENTION



### WHEN WE ARE HEALTHY

Immunity cells will safeguard and eliminate all cancer cells.



### WHEN WE ARE LOW IMMUNE

When the power of NK cells is weakened, unprocessed abnormal cells remain and accumulate. This is a major factor that triggers development of cancer.

## ***NK Cells Therapy follows Immunity Test Result***

NK Activity > 500 pg/ml  
 Negative Predictive Value = 98%  
 (The highest value for all cancer screening tests)

It means that if you have NK activity value of more than 500, you do not have any cancer right now. Result of this range will be recommended to follow up with NK Activity check annually. Or maintain your immunity with immunity treatment once a year.

NK Activity < 500 pg/ml  
 = Abnormal Low Immunity

It means there is a higher chance of risk to develop cancer as of low immunity or will have cancer in the future. Result of this range will be recommended for treatment to strengthen immunity.

## ***Procedure***

- Collect peripheral blood 50-60 ml
- Activated by immuomodulation
- Culture cells up to 2-5 billions cells in 2 weeks
- Infusion of autologous NK cells

Note : treatment can be repeated as needed every 2 weeks if NK cells activity is low and infected with virus or cancer

More information, please contact ;

**Lyfe Medical Wellness**  
 Laguna Phuket 29/99 Moo 4,  
 Cherngtalay,  
 Thalang, Phuket 83130  
 Tel : + 66 62 462 3969  
 Email [contact@lyfemedical.com](mailto:contact@lyfemedical.com)

**Lyfe Medical Wellness**  
 Rawai  
 58/147 Tambon Rawai,  
 Muang, Phuket 83130  
 Tel : + 66 94 926 3269  
 Email [info@lyfemedical.com](mailto:info@lyfemedical.com)